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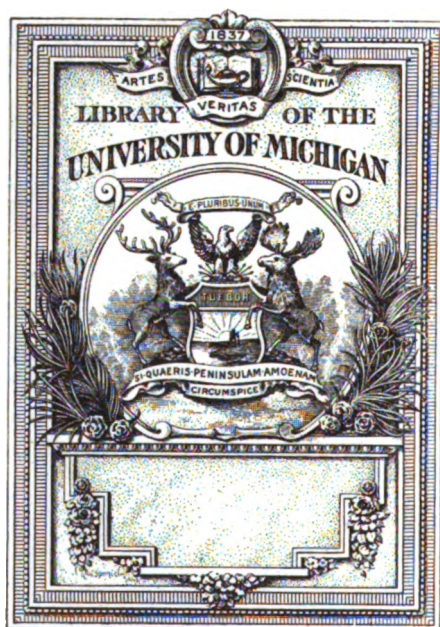
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THE

HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BEING
A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,
AND OF
THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*Zymotic Theory of Disease.*

By WILLIAM FARR, M.D., F.R.S.

(*Medical Times and Gazette*, August 15, 1868.)

DR. FARR, in his recent official report on the cholera epidemic of 1866, sums up his conclusions in regard to the zymotic theory in the following words:—

"It is now held by naturalists that each organ of the body has its proper life; and that it consists of minute centres of action, which have been called cells, globules, organic units, germs, granules, and other names. The cells, like the supposed vesicles of the clouds, are now shown to be solids, and Beale proposes to call them 'germinal matter,' which is perhaps a description rather than a name. 'Monad' would serve to designate these living particles, but as it, as well as the other names proposed, have been already appropriated, these units of force and life may be designated *biads*. Nearly alike under the microscope, *biads* differ infinitely in power and variety; for instance, the brain-cells of man in an early stage of development resemble the pus globules of ordinary inflammation. 'Masses which could not be distinguished from one another [even by Dr. Beale], manifest the most remarkable differences in power.' . . . 'By chemical analysis every kind of germinal matter (*biads*) yields one substance resembling fibrin, another allied to bitumen, fatty matter, salts, and water.' Of these *biads* all bodies are built up.

"It is only with particular kinds of these *biads*, then, that we have to do in *zymosis*; and to give definite form to the theory, while *vaccine* lymph may be briefly called *vaccinine*, the granules of Chaveau may be named *vaccinads*; while those of *varioline* (smallpox lymph) are named *variolads*; those of *syphiline*, *syphilads*, and those of *cholérine*, *cholerads*, the cholera-genic molecules of Pacini.

"It is life in this low form, where it is developed in isolated particles at war with those which constitute men, that generate zymotic diseases. An epidemic is the war of a conquering host of innumerable particles of life. It is therefore subject to the laws of growth and decay, both in the individual man and in communities."

ART. 2.—*On the Treatment of Cysts of the Liver.*

By DR. BLACHEZ.

(*L'Union Médicale*, No. 86, 1868.)

P—, aged forty-nine, a cachectic-looking man, by occupation a printer, was admitted into the Hôtel Dieu, October 28, 1867, with swelling and pain in

the right hypochondrium, attributed to a fall on the left side, which occurred five weeks before. There had been difficulty of breathing, and the man had suffered from general debility. He had never had intermittent fever, syphilis, or alcoholism.

On admission the abdomen was found enlarged, and presented a remarkable arch in the hepatic region. The base of chest was enlarged on the right side, and the lower ribs were elevated and divergent. Dr. Blachez made out a large tumor of the liver, which was smooth, not distinctly fluctuating nor trembling. It extended from the nipple to the middle of the abdomen, and reached a horizontal line carried over the umbilicus. It passed beyond the middle line, and was continuous with a similar tumor, as to consistence, which filled the splenic region. The tumor in the latter region did not mount so high as that on the right side, but the inferior limits were the same. In the middle line there seemed to be a separation of the swelling into two tumors—one hepatic, the other splenic. There were dullness and absence of vibration at the lower part of both sides of the chest behind. Auscultation revealed a souffle and agophony. There were no ascites. Skin was pale and not jaundiced. Urine normal. Pulse feeble, but not frequent. Slight anæmic bruit at base of heart and in the vessels of the neck. There was a great increase in the proportion of white blood corpuscles. The treatment at first consisted in mild evacuants, diuretics, a tonic régime, and blisters over the lower part of the chest. The patient was not benefited; and as the tumor did not decrease in size, and life was frequently in danger from attacks of suffocation, an exploratory puncture was made on the 10th of November. Two and a half litres of a limpid, lemon-colored fluid were evacuated. In this fluid were found living echinococci. The patient was much relieved by the discharge.

On the 19th of November caustic potash was applied to the skin over the hepatic tumor two fingers' breadth below the false ribs. This was repeated every third day on three occasions: the eschar was afterwards cauterized with *caustique Filloz*. On the twentieth day, December 10th, the cyst was opened and 300 grammes removed of a brown fluid containing gelatinous flakes, and precipitating on the addition of nitric acid, a considerable amount of the coloring matter of bile. The fluid contained no traces of hydatid membrane, nor were any debris of echinococci discovered.

The cyst was afterwards treated twice in the day in the following manner: A tube of vulcanized caoutchouc was introduced through the opening, and served to transmit to the deepest parts of the tumour an injection of spirit and water. The cyst, when emptied and cleansed, was injected with water containing a small quantity of tincture of iodine. This injection was allowed to remain.

On December 23d, cystic debris were passed, and the quantity afterwards increased daily. The shreds of membrane were thick, gelatinous, yellow in color, and smooth. They presented no traces of echinococci. As the cyst emptied itself, the symptoms of pleurisy disappeared. The condition of the patient seemed favorable. He took nourishment freely and had no fever; the size of the tumor had diminished considerably. A cure was expected, but towards the middle of January the discharge became fetid, hectic fever came on, and the patient became weak. Erysipelatous spots frequently presented themselves around the opening into the cyst. On the 31st of January there was serious hemorrhage. Violent abdominal pains supervened, and the patient died on the following day.

Autopsy.—The external orifice led to a fistulous passage two and a half centimetres in length, of the size of the finger, and with thickened and firmly organized walls. This communicated with a pouch in the left lobe of the liver. The right lobe of the liver was healthy. The tumor of the left lobe extended into the left hypochondrium, and had compressed the spleen, which was very small.

The cystic pouch was considerably reduced, and of the size of the fist. It was lined by a fibro-serous membrane, on the surface of which were seen some small cysts completely evacuated. It contained a small quantity of sanious pus. At the back part of this pouch were two orifices, each about one centimetre in diameter, one of which was surrounded by recent blood-clots. These

openings conducted to an after cavity, presenting the same appearance as the principal cavity, and lined like it by an adventitious but much softer membrane; the dimensions of this second cavity were less than half those of the principal one. On the left side it communicated with the peritoneum. This second pouch was situated without the liver, between the gland and the diaphragm. On examining the composition of its wall no trace of glandular tissue was found. This pouch was composed exclusively of false membranes formed between the convexity of the liver and the concavity of the diaphragm.

Peritonitis had recently existed, and was characterized by soft adhesions gluing together the intestines, the surface of which was covered by a glutinous material. A small quantity of pus had also collected in the dependent parts of the peritoneal cavity.

The structure of the liver external to the pouch was not sensibly modified. The kidneys and intestinal canal were healthy. The lungs, the right one particularly, were covered by resistant adhesions. There was no trace of pleuritic effusion.

Remarks.—In reviewing the principal points of this case, we see that the cyst did not determine any painful affections before the occurrence of a fall, the contre-coup of which was felt in the right hypochondrium. It had evidently existed previously, from an epoch which it is impossible to determine. The exploratory puncture, by giving issue to an enormous quantity of fluid, sufficiently indicated that the cyst was unilocular. This puncture was followed by considerable relief. The cyst filled again, but slowly, and when it was determined to apply caustics, it was not half the size it presented at the time of the patient's admission. We have seen how long it took to reach the cyst; and how at the end of a few weeks, during which a cure was anticipated, general infection came on, and then a perforation causing death. There is, then, nothing in the case itself particularly worthy of calling attention to, but it has been published from the fact that some reflections have been suggested by it, which perhaps may be of such a nature as to modify the habitual treatment of large cysts of the liver.

In the first place, the diagnosis was surrounded by great difficulties. When the patient was admitted, there was evidently in the hypochondrium a smooth transversely oblong tumor, which projected forwards, and manifested a very obscure fluctuation. In a word, such a tumor as one observes in cystic diseases of the liver. But this swelling extended into the left hypochondrium; and, although without a well-marked line of demarcation, presented a groove in the median line, and descended in the left flank as far as the level of the umbilicus. This explains how the idea of a simultaneous hypertrophy of the liver and spleen, and leucocythemia at first occurred to my mind. An examination of the blood proved that there was an increased proportion of white corpuscles; but this fact did not prevent me from subsequently altering my former views. It is probable, as the autopsy would lead us to conclude, that before the exploratory puncture, the cyst situated in the left lobe of the liver was largely developed in the direction of the splenic region, pushing backwards the spleen, which was found very small, and at the same time thrusting the great mass of the liver outwards and upwards. This difficulty being removed, and the nature of the tumor decided by puncturing, the question of the treatment next occurred.

On consulting authorities upon this point it will be found that they rest content with describing, with more or less detail, the various methods—such as, single or multiple exploratory punctures, cauterization, incisions—and that they do not indicate under what conditions such or such an operation should be preferred. One sees that a certain plan of treatment has succeeded in a certain number of cases, and is led to make a common application of that which has entailed the greatest number of successful results.

I will attempt to fix the indications which should guide the practitioner in his choice of an operative plan of treatment. Every hydatid cyst is not amenable to the same treatment; and I am inclined to think that a better one might have been applied to the case which we have in view.

The exploratory puncture made by means of a trocar indicated, by the quan-

tity of fluid to which it gave exit, that we had, to all appearance, to deal with a single hydatid cyst. The large quantity of free and living echinococci which floated in this liquid strengthened our presumption. The patient, as we have stated, was very much relieved by this primary operation, and the fluid collected again somewhat slowly.

With a like result I must assert, that in another case I should have suspended further interference. It would seem preferable to me to let the patient rest with the benefits derived from the first operation, and to profit by the amelioration obtained from it by putting him on a restorative régime; to discharge him from the hospital for a time, and before having recourse to farther proceedings, to wait until the development of the tumor had given rise to fresh symptoms. Then a fresh puncture might have been made, and again renewed, as long as the nature of the fluid would have permitted us to keep up the practice of a simple evacuation. I must not ignore the fact that one of the most distinguished of my confrères has had the misfortune to lose one of his patients after a single puncture of this kind. But I do not think that a single fact is sufficient to discredit an operation which is generally harmless. We ought, however, to derive the practical precept from this instance, that capillary puncturing should be made with certain precautions, the chief of which seem to be that the fluid should be allowed to flow completely and until the last drop, and that the abdominal wall should be supported before the withdrawal of the trocar. We must guard against the penetration of the cystic fluid into the peritoneal cavity, as it is clear that the patient is exposed to this accident if the trocar is withdrawn whilst the cyst is still filled, and preserves so much of its elasticity as to force outwards some of its contents.

I think, then, that capillary puncturing is one of the least dangerous means which can be employed for the cure of cysts of the liver; and it has been proved by numerous examples that this puncture has, in some cases, been sufficient for bringing about a radical cure. This plan, therefore, should be kept to so long as fresh indications do not present themselves, and necessitate some other treatment; and in those cases particularly where the cavity of the cyst can be completely, or almost completely, evacuated.

In those cases where an exploratory puncture gives exit but to a small quantity of fluid, or where there is reason to suppose that the pouch contains a large quantity of hydatid vesicles, we have indications for resorting to some radical operation more or less dangerous to the patient—either cauterization or incision of the cyst. These indications are presented when, in dealing with a supposed single cyst, we obtain purulent discharge after a frequently repeated capillary puncturing. But when a capillary puncture suffices to empty almost completely a cyst of the liver, and when the fluid contains no inflammatory product, I think the interest of the patient compels us to keep to this relatively inoffensive proceeding, and to repeat it as often as is considered necessary, and that the cyst should not be opened until the capillary puncture has ceased to be of service, and when the condition of the patient compels us to intervene with a more radical proceeding.

When these latter indications are presented, one is generally content with penetrating into the cyst by means of caustics alone, or by some mild proceeding—caustic and incision. By one of these plans we endeavor to establish a communication with the interior of the cyst by means of a narrow passage, which must be frequently dilated by prepared sponge or some other agent, in order to act against its continual tendency to become obliterated. The disorganized fluid contained in the cyst is evacuated with difficulty; and although I made, in my patient, an opening through which the ring finger would penetrate with ease, I found that the cyst contained foul liquid every morning, and required frequent cleansing and dressing, in the manner already described. All the disinfectants employed in this case were attended with but very incomplete benefits. I am inclined to think that it would be better, on future occasions of attacking cysts in this manner, to apply the caustic from the first in such a manner that two openings might be made a short distance from each other, and over the most prominent parts of the tumor. These openings might be joined together if any indications required it during the progress of the treatment.

One may readily comprehend how much this plan would facilitate the dressing of the cyst, the evacuation of its contents, and the introduction of drainage tubes and injections, &c.

In cases of this kind it is of capital importance to diminish as much as possible the duration of the treatment. How many patients succumb, without any special accidents, from nothing more than the exhaustion set up by prolonged suppuration, when the cyst is almost completely contracted, and when no more is required for a cure than a few days of resistance on the part of the organism.

ART. 3.—*Abscess of the Liver.*

By CHARLES MURCHISON, M. D., F. R. S.

(*Clinical Lectures on Diseases of the Liver, Jaundice, and Abdominal Dropsy.*)

"After duly balancing the dangers of operation against the dangers of expectancy," Dr. Murchison says, "I do not hesitate to recommend to you the propriety of evacuating the pus in a large number of cases of tropical abscess of the liver. The operation may not be free from danger, but to wait in these cases upon Nature, as it is called, is to wait upon Death, and I would suggest for your guidance the following rules:—

"a. In all cases where there is a visible fluctuating tumor, operate at once.

"b. In all cases where the symptoms of abscess of the liver are present, with a distinct tumor projecting from the normal contour of the liver, or causing bulging of the ribs, even though there be no perceptible fluctuation, it will be well to operate.

"c. When symptoms of abscess coexist with uniform enlargement of the liver, but with no distinct tumor or bulging, if there be any local cedema, or obliteration of an intercostal space, or acute pain, always localized to one particular spot when the patient takes a full inspiration, it will be well to operate; but if there be no such cedema or obliteration or pain, it may be better to wait, as the enlargement may possibly be due to multiple abscesses, or, if there be but one abscess, it is doubtful if it will be reached.

"When the operation is resolved on, it may be performed as follows:—

"a. When there is distinct pointing, with an inflammatory blush of the skin, an opening may be made with a bistoury.

"b. Under other circumstances, a small trocar will be preferable, and it ought to be introduced wherever there is the slightest fulness or superficial cedema, or acute pain.

"c. When the abscess is small, not holding more than ten or twelve ounces, it ought to be completely evacuated, and the canula tied in for two or three days. On its removal, a tent of lint dipped in oil may be substituted.

"d. When the abscess is very large, it will be better to evacuate it by instalments at short intervals, carefully excluding the air on each occasion.

"e. In the exceptional cases where no adhesions exist, it will be prudent to produce them by the local application of caustic potash, before puncturing.

"f. After the operation, a large warm poultice should be applied over the liver, and the patient should lie on it, taking care that, if the canula has been left in, pressure upon it is obviated by a suitable pad or pillow. A full dose of morphia ought also to be administered at once."

ART. 4.—*Diseases of the Abdominal Viscera.*—(*Abscess of the Liver.*)

By STEPHEN H. WARD, M. D., Lond., Physician to the Seamen's Hospital "Dreadnought," and to the Hospital for Diseases of the Chest, Victoria Park.

(*The Lancet*, August 1.)

"Abscess of the liver," Dr. Ward says, "is not always readily diagnosed. In some of my cases the more striking symptoms were wanting; whilst in cases

where the indications of the affection seemed conclusive, and the patients died exhausted by the dysenteric process, no abscess was found. Still there are symptoms which, especially when taken in the aggregate, may be regarded as tolerably conclusive. These are," Dr. Ward writes—

"1. *Bulging of the Ribs*, or prominence of the liver below them, especially if over such prominence fluctuation can be detected.

"2. *Pain* (a) *direct*—superficial and acute if the abscess be so near the surface as to involve the peritoneum; deep-seated and detected by firm pressure over the hypochondrium when the abscess is away from the surface. In connection with this direct pain may be noticed the position of the patient, who is generally most at ease on his back, feeling a dragging sensation if he turns on his left side, and pain from pressure if he lies on his right. A throbbing pain is also felt when active suppuration is going on. (b) *Distant pain*, referable to the right shoulder, and especially localized about the acromion process. I am pleased to be able to dismiss the unsatisfactory term 'sympathetic' in reference to this pain, seeing that it is caused by direct irritation of nerves. In his Hunterian Oration, Mr. Hilton explains the transference of pain to the shoulder, in hepatitis generally, by the fact that the right phrenic nerve arising from the third and fourth cervical gives off a branch, which takes its course under the inferior cava, through the fissura venosa into the porta of the liver, and finally, also one or two filaments to the round ligament. It will be remembered also that the cervical nerves, from which the phrenic proceeds, send branches to the skin about the shoulder. What is the value of this symptom in the diagnosis of abscess? Not, I think, great, unless taken in connection with other symptoms. It was present in eight of my cases, and in only seventeen per cent. of cases collected by Rouis. Annesley regarded it as pathognomonic of abscess in the upper part of the right lobe, and Budd's experience accords with his. This view I cannot confirm. The symptom in question was present in one case in which the abscess was opened below the ribs, and was clearly at the lower part of the liver. It was absent in two cases in which the abscess had opened into the lung, and also in two cases in which there were several abscesses in different parts of both lobes of the liver. The anatomical explanation is, I imagine, that pain in the shoulder would be present only where the abscess involves the part supplied by the branches of the phrenic nerve.

"3. *A rigid state of the right rectus muscle* was regarded by Twining as distinctive of deep-seated hepatic mischief. This symptom existed in a few of my cases, but I have observed it in connection with other abdominal affections, and I think with Morehead that it is merely a natural effort to ward off pressure from a tender part beneath; and that, while such contraction may be a valuable sign of subjacent inflammation, it has no special relation to hepatic disease.

"4. *Jaundice* existed in only three of my cases. In a case in which the hepatic structure was almost destroyed by abscesses it was profound; in another case, connected with general pyæmia, it was slight and persistent. Its absence would rather help in the diagnosis of abscess from other affections of the liver, and may be explained by the fact that a large portion of the organ is usually left intact for the performance of its functions.

"5. *Rigors and hectic fever* are symptoms which would probably be present where the suppurative process is in activity, and which, especially when associated with dysentery, would materially aid in the diagnosis.

"Other symptoms, of characteristic import, would vary with the course taken by the abscess. If it is about to open externally, we should have redness of skin, fluctuation, pointing, &c. If, which is perhaps the most common result, it effects an opening into the lung by adhesions with and ulceration through the diaphragm and its serous investments, we have an additional series of symptoms, which will be noticed subsequently.

"The stools are usually natural—loose rather than otherwise—and unless much liver-structure is involved, fairly charged with bile. The urine is almost always high-colored, and my experience agrees with that of Mr. Busk, who tells me that he has almost invariably found it to contain a pink or lateritious sediment.

"The following case may be introduced here in illustration of the symptoms and course of the affection :—

"D. B.—, aged thirty-eight, an Irishman, was admitted into the *Dreadnought* on Dec. 3d, 1857. He had twice had ague: once, nine years before, in New Orleans, for three weeks; and again, two or three months since, on the coast of Africa. About two months back he was attacked with diarrhoea, which soon merged into dysentery of an acute character. He had never suffered from this latter complaint before. He was comparatively well from the dysentery at the end of a week or so; but felt prostrate, had no appetite, and continued to suffer from pain in the abdomen. For the last three weeks the pain has centred in the right hypochondrium, and been attended with dyspnoea and cough.

"*Symptoms on admission.*—Complains of pain in the right hypochondrium, increased by firm pressure of the entire hand, and extending over the epigastrium. The abdominal muscles are rigid; there is no marked enlargement of the liver, or undue prominence over its site. He has dry cough, and short, catching respiration; and there are loud râles in front of the right side of the chest. The stools are loose, and contain plenty of bile. The pulse is rapid, the skin hot and dry, and he appears emaciated. Complains of pain in the right shoulder. Was ordered dry cupping over the hypochondrium, salines, with liquor potassæ and tincture of hyoscyamus, and calomel and opium every four hours. Was placed on milk diet.

"Dec. 6th.—Much relieved by the cupping; can lay on the back, but not on the left side. On inquiry it appears that he has had shivering at times without feeling cold, and that it comes on when he is dozing. Ordered to discontinue the calomel, to have a large linseed-meal poultice applied over the right side, and, as the bowels were rather confined, a dose of castor oil was prescribed.

"7th.—Bowels have acted three times; stools bilious; urine high-colored, of sp. gr. 1020.

"On the 9th he vomited a quantity of thickish green fluid, and afterwards felt relieved. From this day to the 14th he appeared to improve; but on the 14th complained of more pain in the right side. On the 17th it was found that he had been sweating profusely in the course of the two or three previous nights. He was now put upon a course of nitro-muriatic acid, which was continued, with apparent benefit, for a week or two, the motions maintaining a healthy character, and the constitutional disturbance being less marked.

"Jan. 7th, 1858.—Has more pain, and there is undue fulness over the region of the liver, though no material enlargement downwards. Leaning on the right side causes pain, and he complains of pain and soreness in the right shoulder and along the inner side of the arm. Ordered the nitro-muriatic acid bath every night. This seemed to do good, especially as regards the functions of the liver, and in diminishing the hectic fever.

"On the 26th he complained of formication over the chest and abdomen, and occasional hiccough, and the bath was discontinued.

"On the 29th he was worse; felt much prostration; more pain in the right hypochondrium, increased on moving or coughing, and he had sweated copiously at night.

"From this date, through the month of February and greater part of March, he continued, with occasional improvements for a day or two, to get worse; the hepatic symptoms and indications of suppuration becoming more marked, and the constitutional disturbance, in the way of hectic fever and subsequent perspirations, greater.

"March 26th.—The abscess is pointing just above the angle formed by the junction of the cartilages with the osseous portion of the last ribs. The liver extends about an inch and a half below the normal limits. The adhesion of the liver with the parietes is determined by the former not shifting its position with a shifted position of the patient, or with the acts of expiration or inspiration. As the patient was becoming exhausted, it was determined to open the abscess. This was accordingly done with a sharp-pointed bistoury, and about a pint of curdy pus escaped. The abscess continued to discharge, especially under the acts of coughing and deep inspiration, and the severer constitutional and local

symptoms were relieved. He continued, however, notwithstanding the free administration of brandy, wine, and beef-tea, to get more prostrated and emaciated, and died on April 5th.

“Inspection.”—Body emaciated. Liver encroaching on the right half of the chest to the level of the third rib. Right lung compressed, carnified below, œdematous above. At the apex three cicatrices, but no evidence of present tuberculous condition. Left lung healthy. Anterior surface of liver firmly fixed to abdominal parietes for several inches around the external aperture. Weight of liver six pounds and a half. In the right lobe there was a large abscess, with smaller ones communicating with it. It had burrowed outwards and downwards until it reached below the ribs, then forwards and through the parietes. No appearance of gangrene. A number of smaller abscesses, about the size of a walnut, occupied the right and left lobes, and contained greenish pus. Intervening hepatic structure healthy. The spleen weighed six ounces, and was healthy; right kidney pale and flabby, left healthy; some of the mesenteric glands enlarged. Large intestine dotted over with circular ulcers, with raised indurated borders; a few had irregular congested borders. The mesenteric and portal veins were healthy.”

ART. 5.—*Hydatid of the Liver Disappearing under the Administration of Iodide of Potassium.*

Reported by N. HECKFORD, Esq.

(*British Medical Journal*, September 26.)

About two years ago a young woman, aged twenty-two, came under treatment for what diagnosed to be a hydatid of the liver. The tumor was undoubtedly connected with this organ, and occupied the whole of the epigastrium and part of the left hypochondrium. It was smooth, globular, dull on percussion, semi-elastic, and indistinctly fluctuating. The parasite was evidently growing rapidly, as the patient had not noticed the enlargement until the previous fortnight. As is usual, there was little constitutional disturbance, some pain and dyspepsia being the only attendant symptoms. She was put under a course of iodide of potassium—thirty grains a day—and at first as a mere matter of form. To the surprise of all, however, the tumor began to diminish, and by the end of five weeks had entirely disappeared. The measurement around the waist decreased to the extent of four inches and a half during this time.

Here arose another interesting point. The girl, judging from her physiognomy, was, without doubt, the subject of inherited syphilis. Was the case, then, possibly one of syphilitic infiltration of the liver? Unhappily, two months afterwards, its true nature was definitely ascertained. The patient, whilst apparently in good health, was seized with acute hepatitis, which terminated fatally. She had frequently recurring rigors, bilious vomiting, local pain, diarrhœa, sweating, and rapid emaciation.

After death, several abscesses were found in the right lobe. With the exception of a small portion of its free edge, the left lobe was wanting, its place being occupied by a shrunken hydatid cyst, which contained some clear yellowish fluid. There was no decomposition of the cyst-wall or its contents. Mr. Heckford is of opinion, therefore, that the abscesses were not the result of septic poisoning, and that, so far as the hydatid went, she was cured. There were no evidences of pyæmia in the other organs.

ART. 6.—*On Temporary Disturbances of Vision with Typhus Fever and Scarlatina.*

By Professor HENOCH.

(*Berliner Klinische Wochenschrift*, 1868. *Aerztliches Literaturblatt*, No. 6, 1868.)

Prof. Hensch reports one case of scarlatina, and one of typhus, in the course of which temporary amblyopia was noticed. In the former case the

exanthem commenced on Nov. 18th, and œdema together with the presence of albumen and blood in the urine, was observed on Dec. 5th; eight days later there was vomiting, and afterwards severe headache and well-marked amblyopia. An uræmic attack, which came on immediately and lasted for several hours, ceased after applying leeches and ice, and administering strong purgatives. On the following day the uræmic symptoms and also the impairment of vision had entirely disappeared, and a slight headache was the only remaining symptom; the amaurosis had not lasted for longer than twenty-four hours. The subject of the second case was a youth aged twelve years, who at the end of the second week of an attack of ileo-typhus was seized with complete blindness which lasted for forty-hours, and on the fourth day completely disappeared.

Various explanations have been given of this phenomenon occurring at the same time as an attack of scarlatina or typhus. With regard to the former affection, Prof. Henoch holds the view that the blindness is owing to a temporary œdema of the intracranial portion of the optic nerve, or rather to an œdema of that portion of the brain which exists between the corpora quadrigemina and seat of vision. From the phenomena observed in a case of basilar meningitis in its last stage, Prof. Henoch has been led to accept the possibility of a sudden absorption of cerebral œdema. In this case it happened that the patient, who was a child, suddenly woke up from a deep sleep, and completely regained his mental faculties, to fall again, after a short time, into another repose, and finally to succumb. Prof. Henoch explains this remarkable phenomenon by supposing that the œdema of the cerebral substance which had been developed in the last stage of basilar meningitis, and had led to anæmia of the brain, suddenly underwent absorption in consequence of which the capillaries of the cerebral substance are again filled with blood, and intelligence restored. Transitory blindness occurring during typhus is attributed by Prof. Henoch to impairment of innervation.

ART. 7.—*On the Treatment of Abdominal Typhus by Cold Water, and by Quinine in Large Doses.*

By Professor MOSLER, of Berlin.

(*L'Union Médicale*, No. 90, 1868.)

Before undertaking the treatment of abdominal typhus by cold water, it is very important to obtain an exact account of the temperature of the body. The long practice and great experience of Wunderlich have given superabundant proofs of this fact. The following is the manner of applying the cold-water treatment. The patient is placed as far as the neck in a water-bath at a temperature of 14 degrees Reaumur, or of 1 or 2 degrees lower than this. When the temperature of the water is raised by the heat of the body, it is important to restore it to its original state, that is, to 14 degrees. During the bath, cold water should be poured over the head of the patient; this douche should not be warmer than the water in the bath, but sometimes even a little colder. This plan of treatment is to be carried out whenever the thermometer placed in the patient's axilla marks 39.5° centigrade.

The duration of the bath must be regulated according to the nature of the sensations of the patient, and should be suspended whenever complaints are made of intense cold. The ordinary duration is from ten to thirty minutes; the patient is then to be dried with great care and placed in a well-warmed bed. It is a good plan to administer to the patient after the bath some strong red wine. Under the influence of this beverage, the temperature of the body is not elevated, but lowered from one to several degrees. Dr. Hornsberg has often observed a lowering of 4 degrees without any detriment to the patient.

Professor Mosler has had recourse to cold baths, not only in the wards of his hospital, but also in private practice, and he has obtained by this method a number of brilliant successes. He combines with the cold bath the administration of quinine in large doses: this medicinal agent assists the febrifuge action of the cold water, when the latter plan of treatment has not succeeded

alone. Sulphate of quinine, it is true, has by itself considerable febrifuge properties but without the action of the cold water it does not produce so satisfactory a cure as might be desired.

The following case is reported :—

A medical student, in about the middle of December, paid frequent visits to a friend who was laid down with abdominal typhus. After eight days he was affected with slight malaise, to which he paid very little attention; but he became worse and worse, and at the end of the month was obliged to take to his bed. On the 31st of December, nine days after the commencement of his illness, this young man presented all the symptoms of very severe typhoid fever. As there was elevation of the temperature which reached in the evening to 41° C., three or four cold douches were administered; by each douche the temperature was lowered by 2 or 3 degrees; quinine in small doses was also administered. On the fourteenth day of the illness profuse epistaxis came on; on the twentieth day there were serious chest complications, and the temperature of the body was raised to such a degree that a rapid and fatal termination was feared. Ice was then applied to the head; and twice in the day the patient was placed into a bath with the water at 18° R.; quinine was administered night and morning in doses which were increased from one and a half to three grammes; during the day the patient drank an infusion of ipecacuanha mixed with sulphuric acid. This treatment was continued for nine days. The fever immediately increased whenever the quinine had been suspended for a day, the temperature of the body was raised, and there was such prostration of strength that soup had to be given during the day. In the course of eleven days the patient took fifteen grammes of sulphate of quinine; on January 23d, the dose was lowered on account of troublesome vomiting, but considerable effects had been produced as the temperature had descended to 38° C. The patient quickly became convalescent, and on February 18th was enabled to leave his bed for an hour.

The following case of exanthemic typhus is not less interesting.

On the 21st of February, Wilhelm W—, aged twenty-two years, was admitted into the hospital. He had been ill for two days, and complained of general pains. It was made out that he had a very large spleen. On the following day ice was applied to the head, and the cold douche was given twice in the twenty-four hours; sulphate of quinine was administered every evening in doses of one gramme, which were afterwards raised to two grammes; profuse epistaxis occurred early, and the body was covered by numerous petechiæ. The following represents the temperature of the body during four days :—

					Morning Temperature.	Evening Temperature.
February 22	$39^{\circ} 4$ C.	$39^{\circ} 8$ C.
" 23	39 4	40 2
" 24	39 7	40 3
" 25	39 8	40 3

The fever was so violent that the cold douches when given for eight or ten minutes did not reduce the temperature by more than $1^{\circ}.5$ to $1^{\circ}.8$ C. On February 27th he had several attacks of restlessness and syncope. A large quantity of good red wine was then associated with the cold baths and quinine, although the temperature on the previous evening had been 40° C. After a bath at 20° R., which was continued for fifteen minutes, the temperature fell to $36^{\circ}.9$ C. at seven on the same evening it was $38^{\circ}.8$ C. Two grammes of sulphate of quinine and some red wine were then administered to the patient. This treatment was followed up to the fourteenth day of the illness, when the temperature was not higher than $37^{\circ}.5$ C.; the patient then became convalescent, and progressed regularly though slowly.

These two cases demonstrate the utility of sulphate of quinine in high doses in the treatment of typhoid fever, and of the benefits to be derived from giving strong red wine in instances of syncope from general debility. Professor Mosler declares that he has obtained by the above described means a marked diminution in mortality among individuals attacked with severe typhus.

ART. 8.—*Relation of Cancer and Tubercle.*

By E. HOLDEN, M. D., Medical Adviser of Mutual Benefit Life Insurance Company, Newark, N. J.

(*American Journal of the Medical Sciences*, October.)

The following facts (Dr. Holden writes) show most decidedly that cancer and tubercle are in no manner akin, much less identical.

Of *seven thousand and thirty* persons over *forty years of age*, *one thousand and thirty-two* had consumption in their own immediate families—parents, brothers, or sisters—and *two hundred and forty-seven* of these in two or more members; yet in these one thousand and thirty-two families only *eleven cases* of cancer had ever occurred, while of the whole number (7030) there had been *ninety-nine* cases of cancer in all. Eleven of them, therefore, only were in consumptive families, eighty-eight per cent. arising in families free from tubercular taint.

Persons over forty years of age have been thus taken, since the families of such may be presumed to have had time enough to develop any cancerous taint. In fact, it may be well enough to state that more than one-half of these persons were over *forty-five* years of age.

It will be observed that there is no evading the evident conclusion thus presented, and the only plausible objection to considering it final and overwhelming is one purely hypothetical, and that is, that the transmission of cancer is most frequently other than immediate, making atavism, in truth, a rule rather than, as with tubercle, the exception.

But further, of 55 deaths occurring in 821 families tainted with consumption, but *one* was occasioned by cancer, 33 by consumption. Still further, of one thousand deaths from disease of the bowels and appendages, there were thirteen from cancer, and in but one of the families of these had consumption occurred, save one having both cancer and consumption.

Further comment would (the Author adds) appear to be superfluous.

ART. 9.—*On the Action of Bloodletting, Heat, Cold, and Irritants, in the Treatment of Disease.*

By GEORGE JOHNSON, M.D., F.R.C.P., Physician to King's College Hospital; Professor of Medicine in King's College, &c.

(*British Medical Journal*, Nov. 7.)

The general principles which Dr. Johnson has, in this paper, endeavored to establish are:—

1. That the object of bloodletting is to lessen hyperæmia of certain parts of the vascular system.
2. Venesection is adapted for lessening engorgements of the venous system, which is usually a result of an impeded circulation through the lungs and left heart. When there are manifest signs of engorgement of the veins and obstruction in the lungs, a feeble arterial pulse does not contra-indicate venesection; and there is no inconsistency in combining the practice of venesection with the administration of stimulants.
3. Local bleeding, by leeches or by cupping, is useful in many cases of inflammation. The bleeding acts by diverting blood through the superficial arteries from the deeper arteries which supply the inflamed parts.
4. Warm baths, fomentations, poultices, and dry cupping, act in an analogous way to local bleeding, but without actually removing the blood from the system.
5. Cold contracts the vessels to which it is immediately applied. The result of this may be a sympathetic contraction of distant and deeper vessels, or a driving in of blood to deeper parts. Cold to the surface, therefore, is an uncertain remedy in cases of internal inflammation.

6. The application of strong irritants, so as to inflame the skin, in the early stage of acute internal inflammations, is a distressing and often a mischievous practice.

As a general rule, in cases of inflammation, those local remedies are the most efficacious which are the most painless, and which quicken in the greatest degree the cutaneous circulation.

ART. 10.—*Notes on the Treatment of Cholera.*

By T. M. LOWNDS, M.D., Bombay Army.

(*British Medical Journal*, August 29.)

For the treatment of the first stage (preliminary diarrhœa), Dr. Lownds gives a draught containing fifteen or twenty minims of chloroform, with ten or fifteen minims of tincture of opium, with a drachm of spirit to render the chloroform miscible with water. During several years, when cholera was more or less prevalent, he has treated a large number of patients by this method, and can only call to mind one case where the disease progressed to collapse, and two cases where diarrhœa went on to rice-water purging and vomiting. In the second stage (true cholera, with vomiting and purging of the characteristic rice-water evacuations), opium should be used with caution, calomel should be given freely, sinapisms applied, and thirst allayed with some fluid capable of yielding oxygen to the blood; dry heat should be applied to the body and limbs. In the third stage (collapse), oxygenated drinks and light nourishment, such as Liebig's cold soup, must be given. The fourth stage (reaction) is to be treated on general principles.

Dr. Lownds briefly states that he considers the disease to consist, pathologically, in a blood poison, devitalizing the blood to such an extent, in fatal cases, as to cause death at the lungs from the inability of the blood corpuscles to assimilate oxygen.

ART. 11.—*On the Diagnosis of Rheumatism.*

By S. O. HABERSHON, M.D., Physician to Guy's Hospital.

(*British Medical Journal*, June 20.)

Whilst there are many characteristics of true rheumatic disease, few maladies (the author says) are more easily mistaken, and there is *no* sign which is *uniformly* present. Pain is, perhaps, the most constant indication, with stiffness of one or other joint; but rheumatic pericarditis may, and often does exist, without any pain whatever. The same may be said in reference to febrile symptoms, to increase of temperature, and to changes in the urine: none of these signs are pathognomonic.

Many maladies are designated rheumatic which have no connection with that disease.

1. *Diseases of the spine* are often said to *commence* with an attack of rheumatism; but it will generally be found that the pain in the course of the nerves or in the fibrous tissues arises from direct implication of the nerves or of their centres.

2. The same remark applies to pain produced by the pressure of *cancerous*, *aneurismal*, or other tumors. Thus cancerous disease of the lumbar glands is often mistaken for lumbago; so also the pain from aneurismal disease of the thoracic and abdominal aorta, when no pulsating tumor can be detected, is referred to rheumatism.

3. During the course of *renal disease*, abnormal irritation arises not only in the serous membranes, producing pericarditis, pleurisy, peritonitis, etc., but a similar change happens with the synovial membranes, and a form of disease is induced which simulates rheumatism.

4. In chronic poisoning by *lead*, vague pains in the fascia, as well as in the joints, have been designated "*saturnine arthralgia*."

5. We have already referred to *perioseal disease* as a source of fallacy in the diagnosis of rheumatism.

6. *Shingles* or *herpes zoster* may be found in the course both of the cerebral and spinal nerves; and the severe pain which precedes the eruption of the vesicles, and which also follows their disappearance, closely simulates local rheumatism.

7. A more important disease, and one which is attended with fatal issue, is *pyæmia*. It closely resembles rheumatism; for, with rigor and febrile symptoms, there is fixed pain and swelling in the joints—first one, then another being affected, though without subsidence of those parts first attacked. But whilst there may be some similarity in the symptoms, the prognosis is widely different. The one is generally a curable disease; the other, a fatal one.

We might also refer to the severe pains in the back which precede some of the exanthems, as smallpox; and to the general *malaise* of fever; but these could scarcely be mistaken for rheumatism. And lastly, the symptoms described as arising from acute *trichinous disease* have some resemblance to rheumatism in the pain in the limbs. Dr. Habershon has never seen an instance of a patient dying in consequence of this affection, although in numerous cases he has witnessed the *trichina spiralis* in the muscles after death.

ART. 12.—*The Treatment of Acute Rheumatism.*

By R. J. BUTLER, L.R.C.P.

(*Medical Press and Circular*, August 5.)

Mr. Butler writes in the highest terms of valerian, administered in the form of a bath, in subduing the pain and inflammation attending acute rheumatism, particularly of the arthritic form. It was first introduced to his notice by Dr. Adrien.

The bath is made simply by taking one pound of valerian root, boiling it gently for about a quarter of an hour in one gallon of water, straining, and adding the strained liquid to about twenty gallons of water in an ordinary bath. The temperature should be about ninety-eight degrees, and the time of immersion from twenty minutes to half an hour. Pains must be taken to dry the patient perfectly upon getting out of the bath. If the inflammation remain refractory in any of the joints, linseed-meal poultices should be made with a strong decoction of valerian root, and applied.

ART. 13.—*On Hemorrhage from Waxy or Amyloid Degeneration.*

By T. GRANGER STEWART, M.D., F.R.S.E., &c.

(*British and Foreign Med.-Chir. Review*, January, 1868.)

Dr. Stewart thinks that the following conclusions are warranted by the facts thus far observed in connection with the subject:—

1. That hemorrhage is not a very infrequent consequence of the waxy or amyloid degeneration of vessels.
2. That, next to the spleen, the intestinal tract is the most common seat of such hemorrhage.
3. That the hemorrhage occurs independently of any visible ulcerative process.
4. That it probably depends upon rupture of the capillaries of the affected parts.
5. That waxy or amyloid generation of the liver does not of itself suffice to produce hemorrhage from the bowels.
6. That hemorrhage occurs in cases in which the liver is free from waxy degeneration.
7. That the occurrence of hemorrhage increases the danger of the patient. But
8. That sometimes it comes and goes for years without markedly depressing the vital powers.

ART. 14.—*The Pathology and Treatment of Sunstroke.*

By GEORGE JOHNSON, M.D., F.R.C.P., Professor of Medicine in King's College; Physician to King's College Hospital.

(*British Medical Journal*, August 1.)

The formidable disease known by the name of *sunstroke*, or *heat-apoplexy*, might (Dr. Johnson writes) be more correctly designated *heat-apnœa*. Although this affection frequently occurs from direct exposure to the sun's rays, it is also of common occurrence without such exposure. The one essential and constant condition is a very high temperature of the air. The most powerful concurring causes are—muscular exertion and excessive fatigue; hot clothing, and especially such as tends to impede the respiratory movements; an excessive use of alcoholic liquors; and the close and impure air of hot and overcrowded rooms. The disease may be fatal in a few minutes, or the symptoms may last from one to forty-eight hours.

The rapidly fatal cases are spoken of as belonging to the *cardiac* variety. The patient falls unconscious, gasps, and dies. When the disease runs a less rapid course, it is said to be of the *cerebro-spinal* variety. There are great heat, dryness, and redness of the skin, giddiness, nausea, congestion of the eyes, and frequent desire to micturate; sometimes delirium, then drowsiness, passing into coma. The pupils are contracted; the breathing is hurried and laborious; the heart's action is tumultuous; the pulse rapid, at first distinct, but soon becoming feeble and irregular. Convulsions are of common occurrence, either early in the attack, or immediately before death. After death, however rapid may have been the course of the disease, the one constant condition is extreme, "unexampled" congestion of the lungs, with distension of the right side of the heart.

Dr. Maclean, to whose article on Sunstroke (Reynold's *System of Medicine*) Dr. Johnson would refer for a clear and succinct account of the facts of the disease, states that all modern pathologists are agreed that the superheating of the blood, which precedes and accompanies sunstroke, has a depressing, and not a stimulating, effect on the nervous centres. In what way, then, does the overheated blood exert this depressing effect on the nervous centres? Dr. Johnson believes the following to be the true physiological explanation of the phenomena.

The hot blood relaxes the muscular walls of the minute pulmonary arteries. The pulmonary capillaries are consequently flooded with blood. This over-fullness of the capillaries interferes with the aëration of the blood. In fact, the over-gorged vessels must encroach upon the pulmonary vesicles, and so diminish the air-space within the lungs; while the air itself is highly rarefied. Hence a state of more or less complete apnœa. Unaërated blood is sent to the muscular tissue of the heart, and to the brain: hence the cardiac and the cerebral symptoms. A similarly engorged state of the cutaneous capillaries, consequent upon extreme relaxation of the minute arteries, is the probable cause of the dryness of the skin. An excessively engorged state of the capillaries is as unfavorable for cutaneous secretion as it is for pulmonary respiration. The dry and inactive state of the skin and the want of surface-evaporation tend to elevate still more the temperature of the blood; and the suppressed cutaneous secretion, being diverted to the kidneys, probably alters the quality of the urine, renders it irritating to the bladder, and explains the frequent micturition.

This explanation of the phenomena is confirmed by the results of treatment. There is now a very general concurrence of opinion that the application of cold to the skin is the most successful remedy. The object to be kept in view is not merely, as it is generally stated, to cool the skin, or to excite the respiratory movements by the stimulus of the douche, but to cool the blood, and thus to restore the contractility of the minute arteries of the lungs. The condition of the pulmonary vessels in this disease is the exact opposite to their state in cholera collapse. In cholera collapse, the minute pulmonary arteries are in a

state of extreme contraction; and, as a consequence, the capillaries are extremely anæmic. In heat-apnœa the pulmonary arteries are extremely relaxed; and the capillaries, consequently, are excessively engorged. In cholera collapse, external warmth in some degree, but much more rapidly and decidedly a warm injection into the veins, relaxes the arterial spasm, and restores the circulation. In heat-apnœa, on the contrary, the object is to cool down the overheated blood, so to revive the contractile power of the minute pulmonary arteries, to relieve the capillaries from their embarrassing excess of blood, and thus to remove the state of apnœa. A clear apprehension of these physiological principles cannot fail to be of great assistance in practice.

In the treatment of heat-apnœa the following appear to be the main points which require attention. The patient should be placed in a recumbent position in the coolest possible place, with a free current of air. The clothes should be removed, and cold water applied to the whole surface; or if the symptoms be urgent, the clothes should immediately be saturated with cold water without waiting to remove them. If the respiratory movements be failing and feeble, the cold douche is a powerful excitor; but if the breathing be rapid and laborious, it is better to envelope the body in a wet sheet, and to quicken evaporation and cooling by a fan or a pair of bellows. If the patient can swallow, let him drink iced water freely. Whether he can swallow or not, iced water may from time to time be injected. The marvellous effect of hot venous injections in cholera collapse, and the urgent need for cooling the blood in heat-apnœa, suggest the expediency, in extreme cases, of injecting into the vein the same saline solution as has so frequently been employed in cholera, only injecting it cold instead of hot.

A routine practice of venesection would be destructive; but when symptoms of excessive venous engorgement are present, a cautious venesection would be quite justifiable, and probably beneficial, on the well-known principle of lessening distension of the right side of the heart, and thus increasing its contractile power. When respiration has suddenly and quite recently ceased, artificial respiration by Dr. Silvester's method may possibly restore animation. While symptoms of apnœa continue, however great may be the apparent exhaustion, no alcoholic stimulants are to be given, for the reason that alcohol, as well as anæsthetic vapors and narcotics, impede oxidation of the nervous and other tissues, and therefore increase the risk of death from apnœa. Ammonia may be applied to the nostrils as a stimulant, and, if the patient can swallow, it may be given internally. Ammonia is a powerful diaphoretic, and the restoration of the cutaneous secretion is an important step towards recovery. When the skin becomes cool and moist, of course all cold applications are to be discontinued. To sum up then—as *hot air* and *hot blood* are the cause of this form of apnœa, so *cold air* and *cold water* are the chief means of cure; all other means are subsidiary to these.

ART. 15.—On Sunstroke.

By C. HANDFIELD JONES, M. B., F.R.C.P., Physician to St. Mary's Hospital.

(*The Lancet*, October 24.)

At a meeting of the Harveian Society, held Oct. 15th, Dr. Jones read a paper on Sunstroke. After referring to the great frequency with which cases had occurred during the past summer, in consequence of the extraordinarily high temperature which had prevailed both in this country and in America, where during one week no less than 833 cases had been registered in New York alone, Dr. Handfield Jones drew a description of the disease as it had fallen under his own notice, and as observed by Sir Ranald Martin, Dr. Maclean, and others, dwelling especially upon the great importance and variety of the symptoms, indicating that the nervous system was primarily and generally affected; the intellectual sensori-motor, reflectorial, and vaso-motor centres and ganglia all being more or less seriously implicated, as shown by the loss of consciousness,

delirium, and coma, the convulsions, and great elevation of the body temperature. Dr. Handfield Jones alluded to the views of some writers, that there were certain points of analogy between sunstroke and the influence of malarial poisons; and pointed out that, at least with high atmospheric temperature, the evolution of malarial poison was increased, whilst those exposed were less able to resist its action. He maintained that long-continued exposure to a high temperature had undoubtedly the effect of enfeebling the nervous power, and to this, when exaggerated, he was disposed to attribute the symptoms of the attack. In speaking of the treatment, Dr. Handfield Jones recommended that every effort should be made to restore nervous power, and to promote the action of the heart; the former being accomplished by exposure to cold, the latter by minute doses of digitalis, strychnia, and stimulants. But he was of opinion that no routine practice could be adopted, every case presenting peculiar features, requiring a discreet application of the remedies suggested.

ART. 16.—*On the Prevention and Treatment of Sunstroke.*

By W. C. MACLEAN, M. D., Professor of Military Medicine, Army Medical School, Netley.

(*The Lancet*, August 1.)

In tropical weather (Dr. Maclean writes) troops should parade for exercise only in the early morning or evening, and even then as little encumbered as possible; and in case any man should fall out, an abundant supply of water should be at hand for drinking and douching purposes.

For those who are obliged to exert themselves in the sun, cold tea is the safest, and in the long run the most refreshing beverage. Every experienced Indian sportsman will subscribe to this. It is notorious in the East, that the sportsmen who "come to grief" from the sun are those who endeavor to "support nature" with brandy and water and strong ale.

When walking in the sun, particularly in the hot streets, when there is little movement in the air, the use of an umbrella, with, for choice, a white cover, can hardly be thought effeminate. It is dangerous to mass a number of people in ill-ventilated dormitories, although it is probable that the formidable symptoms of what may be called barrack insolation are seldom seen under a temperature of 90° Fahr.

The best and safest mode of treating a person struck down by heat is at once to remove him to the nearest shade, to strip him, and assiduously to douché him with cold water over head, neck, and chest. By this means a powerful impression is made on the cutaneous nerves, the effect of which is to set suspended respiration in motion, at first by catches and gasps, finally in a more regular manner. If the heat of skin be, as it usually is, high, this simple operation should be done again and again. The patient should be made to drink freely of ice-cold water, if that be at hand; if vomiting results, so much the better, for it will mechanically aid in diminishing extreme congestion of the lungs, which is one of the most invariable consequences of the attack. The patient should be made to inhale ammonia, with the usual precautions, from time to time. As soon as sensibility is restored it is well to give a purgative; moderate diarrhoea favors recovery. If sensibility be not restored by the above means, shave the head and apply a blister. In the conclusive form of the disease, chloroform may be inhaled, as advised by Dr. Barclay, but always under medical supervision.

ART. 17.—*General Emphysema from Ruptured Lung.*

By E. D. MAPOTHER, M. D., Surg. to St. Vincent's Hospital, &c.

(*Medical Press and Circular*, April 29.)

At a meeting of the Surgical Society of Ireland, held March 27th, Dr. Mapother related the following case of emphysema from ruptured lung:—

"On the 29th of February, Eliza Farrell, aged two years, a healthy child, had a fall, her chin coming against a stool. No local injury resulted, but the child being greatly frightened, seemed to cease breathing for a moment or two, and then screamed violently. When the mother took her up she perceived a swelling above each collar bone, which gradually spread to the surface of the chest, neck, and eyelids. When admitted into St. Vincent's Hospital, thirty-six hours after, these parts were tensely emphysematous; there was neither fractured rib nor clavicle, nor any other injury—the skin of the chin, where it was said the blow was received, not being ecchymosed. There was no difficulty of breathing or cough. I conceived that a forcible inspiration had occurred after the fall, and that the air-cells near the root of the lungs being thus distended, were burst by the sobbing and crying movements, which are expirations with the glottis closed. The air was then pumped into the posterior mediastinum, and thence towards the skin. In anticipation of pulmonary inflammation, I gave a little gray powder, and to lessen expiratory force and prevent further inflation of the areolar tissue, I put a bandage round the chest. The air gradually passed away, and on the seventh day after the accident the child was in perfect health.

"The following points seem worth discussing:—

"1st. The rupturing force has been the retarded expiration in cases of whooping-cough, foreign bodies in bronchi, a sudden cry or laugh, loud speaking (as occurred in the case of a barrister while pleading), primiparous labor, hysteria, and during the reduction of a dislocated humerus. In all such instances there is a full inspiration, and the expiratory movements are most forcible, but the exit of air is not free. Rupture of air-cells usually occurs in the difficult expirations of animals in whom the pneumogastric nerves are cut, the laryngeal muscles becoming so flaccid that the arytenoid cartilages fall together, and it is probable that in whooping-cough (which is the most frequent cause of this kind of emphysema) these nerves are functionally disordered.

"2d. The air-cells near the root alone rupture, because elsewhere the lung is firmly enveloped in pleura and the elastic subpleural layer described by Stokes. In the bladder the serous part is far more apt to burst than the non-serous. The funnel shape of the terminations of the bronchi tends to confine the air, and the air-cells at the very end more readily give way, as those along the sides are supported by other infundibula. During violent expirations, as we see during a fit of coughing, the lungs yield most at their upper part, bulging outwards above and below the collar-bones, but this is the part of the organ least accustomed to distension in ordinary breathing. There is no compression offered by the spine, for it is fixed, nor by the cervico-thoracic septum, for, notwithstanding the expansion it gets from the anterior scalenus, it is yielding. The right lung would probably give way more easily, as its root is higher up, and the liver firmly resists below, but more than two-thirds of the pleural ruptures in cases of pneumo-thorax have been on the left.

"3. Out of 38 such recorded cases which I have analyzed, 34 were in children under four years. At that period the average weight of both lungs is seven ounces, whereas it is six times as much in the adult. These organs rapidly expand from their foetal state, so that the air-cells, which are about 1.250th of an inch at birth, are soon twice that size, their walls being softer and thinner than in the adult. The upper part of the chest in children undergoes the most vigorous movements, and considering the need for abundant aëration, the respiratory force is several times more powerful in proportion to weight and height than in the adult. In the child the interlobular areolar tissue is extremely fine, and there is little fat in the posterior mediastinum, and the air easily makes its way to the subcutaneous layer, but there from the abundant fat it meets resistance, and the emphysema is rarely very extensive. For the above reasons it is easy to burst the infant lung, and insufflation is said to be an occasional mode of infanticide in France. When removed from the chest the lungs bear a much greater expanding force without rupturing, as there is not unequal resistance. Children more frequently cry violently, and are more subject to spasmodic cough than adults, and hence again their greater proneness to this form of emphysema. Whooping-cough is the most frequent cause,

and Mr. Richardson has given us an opportunity this evening of examining both a dried and a microscopic specimen of interlobular emphysema so produced. As that epidemic has been most prevalent during the past year, some of our members may have met with this complication.

"4. General emphysema is to be explained only by a rupture of some hollow viscus, for the inflation of the areolar tissue with gases evolved by decomposition has not been proved, on reliable evidence, to extend beyond the gangrenous part. Inspector-General Moutat, in 1839, reported a case of rapid gangrene in India, in which two hours after death emphysema became general, but decomposition in that climate is ten times as fast as in this. The gases which are emitted by putrefaction are inflammable, as may be tested by puncturing the skin of a corpse which has been for many days floating in water, and if they were generated during life one might even believe in spontaneous combustion.

"While the serum which moistens the areolar tissue, or that poured out into the pleura in hydro-thorax, could only emit gases by decomposition, the blood which had them dissolved may possibly do so.

"Dr. Graves recorded a unique case of emphysema after excessive bleeding, in which the air seemed to escape from the blood, owing to diminished pressure, and then to permeate the areolar tissue of the body. With this exception, I can find no instance of general emphysema in which there was not evidence of rupture of the respiratory or digestive passages, on both of which the expiratory movements would act so as to express the air of intestinal flatulæ.

"A case is recorded by Holmes, in which, after rectal puncture of the bladder, flatus was diffused through the areolar tissue as far as the surface of the chest, and Haller observed general emphysema to result from meteorismus, the intestine giving way as far as the subserous coat into which the air was forced. The latter occurrence has been often observed in cattle when the paunch has been over-distended by flatulent food.

"William Hunter notes that general emphysema was frequent in the cattle plague of last century, and it occurred in half the cases of the late epidemic, more especially in young animals. It is due to the sudden and violent groaning expirations of the creature bursting the lung, the due exit of air being obstructed by the swelling of the tracheal and laryngeal membranes. In the ox the interlobular areolar tissue is very loose, hence the great effusion of lymph, which results in pleuro-pneumonia, while the sub-pleural elastic layer is very strong—anatomical reasons which account for the occurrence of interlobular instead of vesicular emphysema in that animal. Mr. Ferguson lately asked me to witness a post-mortem on a horse which had died with universal emphysema, due, it was thought, to some septic condition, for the occurrence of any injury was denied. However, it was found that a rib had been broken, probably by a kick from a brutal groom.

"In the pathological part of my Student's Manual I have inserted a woodcut of a case which was recorded as one of spontaneous effusion of air, but I believe it to have been similar to the one now detailed.

"Authors talk of the secretion of air into the peritoneum, into the stomach, and into the womb. As regards the first we have no proof that air ever distends that sac, and it is more probable that the stomach becomes inflated by fermentation of food, and the womb by suction of air through the vagina. Surgical writers have appealed to the swimming bladder of fishes as a sac into which air is secreted, but that that organ always communicates at some period of life with the alimentary canal.

"Emphysema from ruptured lung has proved occasionally fatal, and in such cases the mediastinum has been found so greatly distended, and so much air effused under the pulmonary pleura, that apnoea should result.

"Lastly, as to treatment. Puncturing the skin and bandaging the chest are the surgical steps which seem advisable in cases in which respiration is impeded. William Hunter first advised puncturing the skin, having learned its efficacy in cases of cattle plague. The mediastinum and interlobular spaces must be relieved accordingly as the air fizzes through the punctures, and the free passage of air, which has been rendered less irritating by being respired, produces no ill effect upon the areolar tissue.

"A bandage round the chest is useful in lessening the expiratory force, but if there was much compression of the lung previously, it would be unendurable.

"I such cases the sac of the pleura does not contain air. Halliday records a case in which a vomica burst both into the mediastinum and left lung, immense subcutaneous emphysema resulting. The dyspnoea was so great that it was resolved to tap the chest, but the emphysema prevented the surgeon from making sure on which side the pneumo-thorax was. The sound side was chanced on, and the patient was suffocated in a few minutes from collapse of both lungs.

"It was Hewson who first asserted that pneumo-thorax and compression of the lung must precede the escape of air into the subcutaneous areolar tissue in cases of fractured rib. Professor Porter, in his lectures in this college in 1839, advanced another theory, which, although I believe the correct one, has not attracted attention. He argued that emphysema only occurred in cases where adhesions between the pleural surfaces had kept the wound in the lung and the wound in the chest in correspondence. In rabbits or dogs with healthy lungs Hewson was never able to produce emphysema by any kind of wound. Many cases of wounds of the lung from broken rib are not attended by emphysema, because the required adhesions are not present, and such cases are not followed by great difficulty of breathing, nor invariably by death, as they would be if pneumo-thorax was a necessary part of the case.

"The question is most important, for if there be air in the pleural sac producing dyspnoea, it should be removed with a trocar and canula, a long tube and stopcock being adapted to the latter to prevent admission of air. The external wound will be readily closed with sutures and collodion, and as wounds of the lung heal rapidly, air will not be again expressed into the pleural sac. The quantity of air the pleura will contain is surprising. Dr. John Davy removed, by tapping the right pleura of a young soldier, 225 cubic inches of gas, 92 per cent. of which was nitrogen and 8 carbonic acid, the oxygen having been removed by respiration.

"In cases of fractured rib, especially if the lung be torn, it would be very desirable to compress the injured side, and yet leave the sound side free. I think this might be done by rolling the bandage round the arm of the sound side, the limb being kept out from the ribs by large pads placed between the elbow and the ilium. The bandage might be also carried from the ribs of the injured side round the neck and shoulder and pelvis of the opposite side, which would leave the ribs free to move. The ribs would be then raised, and everted by the muscles on the side which was not compressed by the bandage. Placing the patient on the injured side tends to the same end."

ART. 18.—*A Case of Pericardiac Exudation treated by Puncturing.*

By Dr. MADER.

(*Wochenblatt der k. k. Gesellschaft der Aerzte in Wien*, No. 24, 1868.)

The patient was a woman, sixty-eight years of age, in whom oppression of the chest and increasing dyspnoea had been gradually developed, without any symptoms of inflammation. At the time of her admission under the care of Dr. Mader, she was found to be weak and emaciated, and the dyspnoea was so considerable that she was unable to lie down or sleep. The veins of the neck were much distended; in the region of the heart there was extended dulness, which reached as high as the first rib, and from two to three fingers' breadth beyond the right margin of the sternum. The beats of the heart were nowhere perceptible; the heart sounds were very weak and small, like those of the fœtus, and sounded as if the organ was at a distance from the ear; there was no rubbing sound. The pulse was small, irregular, and frequent. Nothing peculiar was found in the lungs and other organs. The affection was diagnosed as a serous exudation into the pericardium. As the remedies administered for several days proved fruitless, and the trouble of the patient increased, it was decided to remove the exudation. For this purpose an apparatus was impro-

vised out of a glass syringe, which had been formerly used for venous injection in cholera patients, and the needle and canula of a subcutaneous injection syringe, with which the former instrument was armed, so as to act as a suction pump. The glass syringe held about one ounce of fluid. Dr. Mader made a puncture in the third intercostal space on the left side, about one inch external to the margin of the sternum; the instrument was carried somewhat deeply (quite half an inch), but no sensation was given during the puncture, and the trocar having been forced into a cavity, the piston of the syringe was now slowly drawn down, when Dr. Mader observed with delight that a clear yellow fluid flowed away. The syringe was filled and emptied twice. After about two ounces of fluid had been removed, the dull sound over the cardiac region was much diminished in extent; the canula was then withdrawn, and the parts left undisturbed. The removed fluid was now weighed and examined under the microscope; it proved to be a sero-albuminous fluid, containing a few blood corpuscles in consequence of the puncture. The patient, who had complained of very little pain during the operation, and had borne it very quietly, was now perceptibly relieved; she was able to lie down at night, and to sleep, and for some days felt herself altogether better. The cervical veins were less distended. This improvement, however, lasted but for a short time; after a few days the cardiac dullness again increased, and was associated with hydro-thorax on both sides, chiefly on the right, so that the pericardiac could no longer be distinguished from the pleural dullness. The subjective troubles again increased to a great extent. In spite of the unfavorable prognosis, and merely for the sake of giving relief, tapping was again performed, fourteen days after the first operation. Since, on close examination, an indistinct heart-sound could be heard on the left side, which was to be attributed with some probability to cord-like adhesions of the apex of the heart, or rather to a more superficial position of the heart at this part, the puncture was made close to the right margin of the sternum, again in the third intercostal space, and the needle carried inwards and to the left, until its point was in the pericardiac cavity. About three ounces of clear yellow fluid was pumped out, as on the previous occasion. This operation gave but slight relief, and on the following day the patient died. On post-mortem examination hydro-thorax was found on both sides; the lungs were healthy; there was extremely little fluid in the pericardium, which was almost quite empty, so that about the apex of the heart the parietal and visceral layers of the serous membrane were in close contact. On closer examination, traces of two punctures could be distinctly seen, the recent one on the right side being naturally more distinct than the other towards the left. No signs were observed of hemorrhage or of injury to the heart; the pericardiac pseudo-membrane was compact, hard, and studded with small nodules of tubercle.

In this case, although at the time of the second puncture there was clearly but a small quantity of fluid in the pericardium, still the heart was not injured. It is probable that no fluid would have come away after a simple puncture with a trocar, since the pericardium was but slightly distended.

That no good results were obtained, in spite of the success of the operation, can be well explained by the marasmus of the patient, by the advanced impairment of the circulation, and by probable disease of the muscular tissue of the heart.

Dr. Mader believes this to be the first case in which pericardial fluid has been removed by pumping, and thinks that this method is superior to that of simple puncture. The dangers the practitioner is fearful of when applying the suction pump to cases of pleuritic adhesions—namely, the too rapid extension of the false membrane, bleeding from and laceration of the same, and disease of the lungs as a consequence of forcible distension—are not to be feared here, since the lungs will readily follow the relieved parietal portion of the pericardium.

ART. 19.—*On Excessive Sweating.*

By ARTHUR WYNNE FOOT, M.D., F.K. & Q.C.P.

(Dublin Quarterly Journal of Medical Science, May.)

Among the more remarkable instances of general and excessive, that is, visible sweating, are the colliquative perspirations attending the venereal, cancerous, or phthisical crases, the drenching sweats of over-lactation, of the terminal stage of the normal ague paroxysm, the sweatings or crisis of rheumatic fever, and those occurring about the time the ovaries become effete. The exhausting effects of those obviously unnatural cutaneous discharges have, as is just and right, caused more anxious search to be made for any means of moderating or controlling them, than of explaining their etiology. It appears as if the causes of general profuse sweating might be referable to two causes (perhaps to but really one); to the circulation of a poisonous blood, and to depression of the vital powers, that is, to diminished energy of the sympathetic system. The condition of the temperature, pulse, and skin at the termination of an ague paroxysm points to a paralyzed and dilated condition of the arteries; the hepatic, splenic, or thyroidal enlargements may result from excessive flow of blood to these parts from the same cause. The earlier stage of poisoning by malaria appears very different from the latter one, the cold, wrinkled, shivering surface contrasting with the hot, flushed, sweating one; but in other poisons of vegetable origin, as in opium, the earlier effects are stimulant and very different from the later ones, and the phenomena observed in the first stage correspond to those which attend experimental stimulation of the sympathetic nerve. Cruveilhier remarks that of the three stages of a paroxysm of intermittent fever, that of sweating is the most constant. Some attacks may be without the cold stage, others without the hot stage; but it is very rarely that the sweating stage is absent; he has recognized an irregular ague by the nightly occurrence of profuse sweating amenable to quinine. There is reason to believe that the perspirations of rheumatic fever, although they may seriously compromise the comfort of the patient, and he may be sensible of but little relief from pain by them, yet serve to remove from the body much of the *materies morbi* which is the exciting cause of the symptoms. In phthisis profuse perspiration, although generally a symptom of very advanced disease, may be present at a period when both auscultation and percussion give only dubious information as to the condition of the lung, and in such case it will be found generally to be disseminated tubercle from which the individual is suffering. Cruveilhier records a remarkable case of this kind, which as far as physical diagnosis was concerned, remained undetermined up to the person's death, but which was marked from the very first by excessive night sweats, accompanied with rapid emaciation and profound debility. Regarding the colliquative sweating of phthisis as a consequence of vaso-motor paralysis resulting from constitutional exhaustion, it is not difficult to appreciate the value, although often but temporary, of nutritious diet, and such medicines as cod-liver oil. In support of the view that phthisical sweatings are the natural result of the depressed condition of the vascular system of the patient, are the observations that these perspirations usually come on when the person falls asleep, and more frequently during night sleep than day sleep; it has also been shown by Dr. Edward Smith that in cases of phthisis the subsidence of the rate of pulsation during the night is much greater than in health, and that the greater difference between the day and night rate in phthisis than in health is less due to the increased elevation of the pulse during the day than to the great subsidence of it through the night. The usual time for the occurrence of perspiration in typhoid fever is in the night, the skin in the daytime being usually dry; and according to Traube's researches, the critical evacuations in typhus fever, and among them perspiration, are always preceded by a considerable fall in the pulse. In many other cases depression of the heart's action is a well-known cause of perspiration—for example, those attending the syncopal state which

the inexperienced smoker falls into, the sweating which attends sea sickness, extreme purgation, the exhibition of tartarized antimony, and the effects of terror. The remedies which prove serviceable in the majority of cases of excessive general sweating are such as tend to remove depression of the heart's action, and act as tonics on the vaso-motor nerves. The difference in gravity of import between local and general sweatings appears to be very great, because, although a partial sweating may excite more alarm and closer attention from the greater rarity of its occurrence, yet it does not appear that it is in most cases indicative of by any means as serious nervous disturbance as are the general sweatings.

For the relief of sweatings of the hands Dr. Druiitt has suggested the thorough application of the hottest water that can be borne without pain to the offending parts until they are red hot, and tingling as if scalded. This treatment, the author states, sometimes appears to aggravate the affection. Hebra recommends the frequent local use of a solution containing one drachm of tannic acid mixed in six ounces of alcohol; this liquid should be rubbed into the part several times a day, and the skin must not be wiped afterwards; a little powdered asbestos is to be sprinkled on it while still wet, and with this the part is to be rubbed till it is dry. From statistics he finds that this complaint affects the young as well as the old, both males and females, rich and poor, those who are of cleanly habits and those who are dirty, persons who are in good health and those who suffer from other maladies.

SEC. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 20.—*On the Diagnosis of Diseases of the Nervous System by means of the Ophthalmoscope.*¹

By M. E. BOUCHUT.

(*Gazette Hebdomadaire*, No. 25.)

1. The ophthalmoscope often enables us to discover at the fundus of the eye lesions of the circulation, secretion, and nutrition, which announce an organic affection of the cerebro-spinal system.

2. Optic neuritis, neuro-retinitis, choroiditis, and atrophy of the papilla, accompany most of the acute and chronic affections of the meninges of the brain and spinal cord.

3. The law of the coincidences of optic neurites with organic lesions of the nervous system is to be explained by the anatomical and physiological relations of the eye with the spinal cord and brain.

4. Whenever a violent obstacle to the cerebral circulation is produced by a lesion of the encephalon or cord, there is papillar and retinal hemorrhage.

5. When acute or chronic phlegmasia attacks the encephalon, the inflammation may be propagated to the eye along the optic nerve.

6. Affections of the anterior trunks of the cord may, in consequence of their anastomosis with the great sympathetic at the level of the first two dorsal nerves, produce in the eye phenomena of papillar hyperæmia which will ultimately lead to atrophy of the optic nerve.

7. Optic neuritis and neuro-retinitis, when produced through acute or chronic diseases of the nervous system, are generally observed in both eyes.

8. In lesions of the encephalon or meninges, the optic neuritis is generally more noticed in the eye corresponding to the hemisphere which is more seriously affected.

9. The morbid changes of the optic nerve and retina associated with nervous

¹ Paper read before the Academy of Sciences.

disturbances of sensibility, intelligence, and voluntary movement, always indicate an organic affection of the encephalon.

The following are the diseases of the nervous system in which optic neuritis and neuro-retinitis have been observed: phlebitis of the sinuses, acute and chronic meningitis, chronic encephalitis, cerebral hemorrhage, tumors of the brain, cerebral contusion and compression, chronic hydrocephalus, abscess of the brain, acute myelitis, locomotor ataxy, *essential* muscular contraction, and certain forms of epilepsy, paralysis, or neurosis, connected with some organic lesion of the nervous substance.

ART. 21.—*Notes on the Pathology and Therapeutics of Disorders of the Nervous System, accompanied with Excess of Motility.*¹

By W. STRANGE, M.D.

(*British Medical Journal*, August 8.)

The author classed under this title chorea, hysteria, epilepsy, paralysis-agitans, mimosa, and some forms of insanity. His object was to show, by a minute examination of the special symptoms of each, as well as from the general symptoms common to the whole group, that there was a family relationship between them all, and that their pathology must be looked for in the difference in the parts of the nervous system, rather than in any essential distinction between the morbid processes in each. Excess of motility showing a diminution rather than an excess of the nervous force, the treatment in all these disorders will be substantially the same; namely, by such means as should, 1, improve the quality of the blood; and 2, by presenting a material easily assimilable by the nervous tissue. He had found the most rapid cures from the administration of alcohol as food to the vesicular neurine, in frequent small doses (six to eighteen ounces daily), in chorea, hysteria, mimosa, &c., in conjunction, in some cases with cod-liver oil, and from large doses of bromide of potassium in epilepsy.

ART. 22.—*Ergot of Rye in the Treatment of Neuralgia.*²

By E. WOAKES, M.D.

(*British Medical Journal*, August 8.)

The object of this paper being to introduce the ergot of rye as a remedy in the treatment of neuralgia, a brief epitome of the writer's views of the pathology of this disease preceded the illustrative cases, this application of the drug being the direct corollary of his theory. Regarding shingles as more or less illustrative of all forms of neuralgia, the author referred the rash and the pain in it to the same cause; viz., effusion of liq. sanguinis from the ultimate branches of the artery in the track of which the symptoms appear. Tracing this artery to the skin in one direction, the effusion from a papillary arterial twig was seen to occasion a spot of herpes upon the cuticular surface of the papilla; tracing it in the direction of the corresponding sentient nerve, the fluid effused from the nutrient twigs (*vasa nervosum*) supplying it was found to occasion, by its mechanical disturbance of the sentient fibrillæ, the severe pain constituting the associated neuralgia. The cause of the effusion in such case was referred to a temporary suspension of the regulating influence exercised over the minute arteries by the sympathetic nerve-fibres distributed to them. It was this suspended function that the ergot was supposed to restore, and so to allow of the removal of the fluid from its pain-causing situation. Five cases were reported;

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association, held in Oxford, 4th, 5th, 6th, and 7th of August, 1888.

² Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

one of severe neuralgia following shingles, one of sciatica of four months' duration, one of hemicrania, and two of ordinary tic; in all of which cure resulted in from four to six days after commencing with the ergot.

ART. 23.—*On some Forms of Visceral Neuralgia.*¹

By FRANCIS E. ANSTIE, M.D., F.R.C.P.

(*The Lancet*, August 15.)

The author had originally intended to sketch out the whole subject of visceral neuralgia, but finding it impossible to do this effectively in a short space, now confined himself to neuralgia (1) of the heart, and (2) of the ovary and uterus.

1. Under the heading of cardiac neuralgia the author included every variety of the affection commonly known as angina pectoris. He endeavored to show that, whatever the amount of organic change present in the heart or vessels, the essential feature of the disease, and that which constitutes its interest and its danger to life, is the element of neuralgic pain; or rather, that condition of the nervous system of which that pain is the prominent expression. So far as angina from being always, or nearly always, a rapidly fatal disease, that the author is convinced, from his own experience and from the study of recorded cases, that in the great majority of instances this affection runs a decidedly chronic course, with intermissions which completely characterize the neurotic origin of the disorder. In support of this position three series of facts were adduced. The first series included the narration of striking cases in which the anginal spasms recurred during fifteen or twenty years, and death at last took place, not from heart-spasm or heart-palsy, but from degenerative disease of the nervous centres. The second series of facts was concerned with the evidently close relations between angina and the ordinary neuralgias (as shown by the frequent occurrence of the latter in anginal patients), and with the intimate connection evidently existing between spasmodic asthma and angina pectoris. The third series of considerations included the arguments from hereditary taint, and these are, perhaps, the strongest of all. Not only is angina itself frequently a direct inheritance (as in the celebrated case of Dr. Arnold, whose father had died exactly as he did), but the most ordinary care in inquiring about pain by history will not fail to produce a striking effect on the physician's mind by showing the extraordinary frequency—one might almost say universality—with which anginal patients will be found to have descended from a race strongly marked by tendencies to the more severe neuroses. These positions were illustrated by cases which had come under the author's notice; and the following general conclusions were drawn: 1st. That the essence of angina is a neuralgic condition which (by reflex action on the cardiac motor nerves) may produce either cardiac palsy or cardiac spasm. 2d. That the tendency to this neurotic condition is constitutional, and nearly always congenital. 3d. That the various organic lesions which have from time to time been found in anginal patients acted merely as greater or lesser *provocatives* to the neurotic disorder. The author then discussed in detail the treatment of cardiac neuralgia.

2. As regards uterine and ovarian neuralgia, the author remarked, at the outset, that those affections are distinguished from other neuralgias by the frequency with which *peripheral* sources of irritation are the most important factors of the neuralgic state. Considering the great copiousness of the nervous supply to the uterus and ovaries, and the powerfully disturbing character of the functional processes which are periodically recurring in these organs, we need be at no loss to understand how this should be. The most common variety of peri-uterine neuralgia is that which attends certain kinds of difficult menstruation. It would not be correct, however, to give the name of neuralgia to the pain suffered in many cases of dysmenorrhœa, in which the suffering is apparently entirely dependent on and commensurate with the amount of obstruc-

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association, held in Oxford August 4th, 5th, 6th, and 7th.

tion to the escape of menstrual fluid, although its character somewhat resembles the neuralgic type. There is, however, a true neuralgic dysmenorrhœa the subjects of which have exaggerated sensitiveness of the pelvic organs, and are, besides this, liable to neuralgia or other parts. In the virgin condition they suffer at every period from frightful pain, and this pain is not relieved, or is only most imperfectly relieved, on the occurrence of the flux. These young women, so far from having any mechanical conformation which forebodes sterility, are usually both perfectly apt for conception and child-bearing, and are also evidently benefited by the exercise of these functions. As a contrast to a case which he had related of dysmenorrhœa from mechanical obstruction, in which marriage was sterile and the painful periods continued after it, the author related two cases in which frightful neuralgic attacks which had accompanied menstruation in the virgin state diminished after marriage, and soon entirely ceased. This favorable alteration was coincident with an improvement in the general health, and a lessening of the general tendency to neuralgic and other nervous disturbances. The peripheral sources of irritation which give rise to uterine or ovarian neuralgia are not always situated in those organs themselves. *Ascarides* in the rectum, leucorrhœa of a purely functional nature and proceeding simply from the vagina, calculus of the kidney or ureter, scybalous feces in the rectum, and even the irritation of parts far more distant, may produce pelvic neuralgia in a reflex manner. Even a carious tooth has been known to produce this effect, and its removal to effect an immediate cure. There is, however, one kind of peripheral irritation locally connected with the uterus itself, which is probably one of the most frequent of all exciting causes of uterine and ovarian neuralgia—namely, displacement and flexions of the womb. It has been recently stated by Dr. Graily Hewitt—and the opinion of that high authority was fully confirmed by his (Dr. Anstie's) own much smaller experience—that the great majority, if not all of the cases which Gooch grouped under the title of "irritable uterus," are really examples of uterine displacement or flexion. The kind of pain which attends these cases, although more or less continuous, is liable to periodical aggravations which assume all the severity of true neuralgia, and this severity is largely commensurate with the sensitiveness of the general nervous system. The author made full reference to the treatment, especially by subcutaneous injection of sedatives.

ART. 24.—*A Cure for Headache.*

By GEORGE KENNION, M. D., F.R.C.P.

(*British Medical Journal*, June 13.)

The remedy, Dr. Kennion observes, is simple; it is the bisulphide of carbon in solution. Its mode of application is no less simple. A small quantity of the solution (about two drachms) is poured upon cotton-wool, with which a small, wide-mouthed, glass-stoppered bottle is half-filled. This, of course, absorbs the fluid; and, when the remedy has to be used, the mouth of the bottle is to be applied closely (so that none of the volatile vapor may escape) to the temple, or behind the ear, or as near as possible to the seat of pain; and so held for from three to five or six minutes. After it has been applied for a minute or two, a sensation is felt as if several leeches were biting the part; and, after the lapse of two, three, or four minutes more, the smarting and pain become rather severe, but subside almost immediately after the removal of the bottle. It is very seldom that any redness of the skin is produced. It may be reapplied, if necessary, three or four times in the day.

The class of headaches in which this remedy is chiefly useful is that which may be grouped under the wide term of "nervous." Thus neuralgic headache, periodic headache, hysterical headache, and even many kinds of dyspeptic headache, are almost invariably relieved by it; and, although the relief of a symptom is a very different affair, of course, from the removal of its cause, yet no one who has witnessed (and who of us has not seen?) the agony and distress

occasioned by severe and repeated headache, but must rejoice in having the power of affording relief in so prompt and simple a manner.

As regards the *modus operandi* of this remedy, it is difficult, perhaps, to form a certain opinion; but Dr. Kennion is disposed to attribute it to the sedative effect of the vapor of the bisulphide, absorbed through the skin, and acting upon the superficial nerves of the part to which it is applied.

ART. 25.—*Treatment of Delirium Tremens.*

By SAMUEL WILKES, M. D., Physician to and Lecturer on the Practice of Medicine at Guy's Hospital.

(*Medical Times and Gazette*, September 19.)

As regards treatment, the most important instruction Dr. Wilkes can give is what *not* to do. Do not, he says, in the first place, regard delirium tremens as a disease due to the sudden withdrawal of an accustomed stimulus, and therefore commence the treatment with the administration of wine or spirits—you will by so doing add fuel to the fire—but look upon the attack as due to excitement acting on a previously weakened brain. Then your mode of treatment is obvious and rational. In one word, get your patient repose. Now I do not mean by this that your remedy is simply opium to procure sleep, but I use repose in a much larger sense. I have frequently seen a patient, probably a publican, sitting in a large room surrounded by a dozen friends, male and female, who are talking to him, or holding him in restraint. He is bathed in perspiration, his pulse is very quick and feeble; the Doctor says he has not slept for two or three nights, and he dare not give any more opium, as the pupils are already contracted. His fears that the man will die seem not ill-grounded, since it is impossible to suppose that any mortal man could go to sleep under such circumstances. I have seen such a patient then removed to a small room, put to bed, and go off to sleep in half an hour. Therefore I say that the most judicious treatment is required for delirium tremens, and do not go away with the notion that all you have to do is to give opium to procure sleep. I have many times seen the last sleep produced by it. And do not continually give stimulants to “keep up” the patient, for I have constantly seen the complaint strengthened by these means. I do not wish to reflect on the opinion of others, because I state strongly my impression that the disease is not to be cured off-hand by medicine. I see a great deal of this disease, and the time at which I am called in is about the third day, when, all means having been found unavailing in checking the complaint, another opinion is sought; after this time the patient usually sleeps and does well. I think, then, except in very slight cases where a single dose of opium procures rest, that a certain interval must elapse before the commotion subsides; that in a bad example of the complaint the symptoms will continue without abatement for three days at least. This is my experience under all modes of treatment. I have no objection to opium, but it should be administered judiciously; if you act on the principle that sleep must be procured at all hazards, and as soon as possible, you will without doubt kill many of your patients. In the first instance you should place your patient in a small quiet room, and get rid of a number of officious friends.

As regards medicines, you must be guided by circumstances. I have often prescribed with advantage the well-known mixture of twenty drops of antimony wine and tincture of opium every four hours, keeping up the patient's strength with beef-tea. If you can give a glass of wine or beer in the form of nourishment without its producing any injurious stimulating effects, I have no objection; but, as a rule, I advocate the plan of giving none. Instead of administering antimony, you might give the laudanum, or small doses of morphia with ether or ammonia, and at the same time, support the strength of the patient. By judicious management of this kind you will find your patient recover in three or four days, unless indeed he be extremely diseased in consequence of his former dissipations. As regards restraint, I have often heard objections made to it, but I believe it is often necessary, and its adoption is a real

kindness to the patient. He may wander about his house until he drops dead from exhaustion, when a forcible restraint in bed by a sheet across the chest might procure rest for the body, and often for the brain. Remember, then, your patient wants repose; do not be content with administering opium and neglecting every measure which common sense would say was necessary to give any man a night's rest. As regards chloroform, you may quiet the patient by it for a time, but you do not in any way influence the disease. Other remedies are advocated. When digitalis was first proposed, I gave it to a man in large doses, and he having unfortunately died, I have never felt myself justified in administering it again. I have seen enough of the sedative effects of the wet sheet to fully believe the statements which have been made as to its efficacy. You strip the patient naked, roll around him a wet sheet until he looks like a mummy, then a blanket around this again. In many cases of delirious excitement, you will find that, as soon as a hot vapor surrounds the patient, he sinks into a quiet sleep.

ART. 26.—On Hemicrania.

By Dr. MOLLENDORFF, of Berlin.

(*Virchow's Archiv*, xli., 1868. *Schmidt's Jahrbücher*, No. 7, 1868.)

Dr. Mollendorff considers hemicrania to be a temporary paralysis of the sympathetic nerve so far as this accompanies the carotid artery, and also as an active congestion of the brain, generally on one side. This view is based upon the following facts:—

Hemicrania frequently occurs before or after menstruation, which condition is probably due to a deficiency of tone in the vessels of the uterus; it often passes over from one side of the brain to the other; it comes on in the same manner as headache with drunkenness, not during the stage of excitement, but directly afterwards; it is preceded and accompanied by troublesome pulsations of the arteries of the head; it may be arrested by compressing the common carotid artery, and does not return so long as the compression is continued; it is increased, on the other hand, by compressing the carotid artery on the unaffected side. In hemicrania the ophthalmoscope reveals marked congestion within the eyes on the painful side.

During this abnormal state of the circulation in one half of the brain, there is a deficiency of blood in the rest of the body. Hence the small contracted pulse in the extremities, which contrasts forcibly with that of the carotid and the arteries of the face; the hands and feet are icy cold, the secretion of sweat is diminished, that of saliva and urine increased. The heart's movements are slow; nausea and vomiting are often present.

This complication of symptoms is very analogous to that following section of the cervical ganglion of the sympathetic. One part of these symptoms is due directly to arterial distension; another to the pressure of the swollen brain upon the base and side of the cranium. Those nerves which leave the cranium under the tentorium cerebelli fail to present any signs of compression. In course of time there is plethora of the liver and intestines.

The active congestion of the brain is, as has been already mentioned, secondary, and the result and sign of relaxation of the vessels; its unilateral attacks may be explained in the same manner as the frequent unilateral affections of most double organs, as the kidneys, ovaries, etc.

Hemicrania may be hereditary, and then often comes on about the sixth year in children who bear the greatest bodily resemblance to the parent previously affected.

In this affection there is probably a deficient development of the muscular tissue of the vessels, associated with impaired function of the vaso-motor nerves. For these reasons is hemicrania more intense when it coexists with chlorosis. The affection, when it occurs in children, may be considered as idiopathic; this form commonly disappears in the climacteric period of life. When, on the other hand, hemicrania makes its first appearance after the period of

involution, it is to be considered as sympathetic of some disturbance of the female generative organs, or some other part of the body, of some morbid change in the blood, as with gout, or again, of some abnormal psychical changes.

Idiopathic hemicrania almost always disappears spontaneously in advanced life; the cessation of typical discharges from the uterus, breast, etc., and the increasing rigidity of the arteries, are so many natural means of compensation. Art supplies but temporary means of relief which excite the vaso-motor nerves, such as coffee, conium, strychnine, quinine, arsenic, the æthereal oils and alcohol, transient cold, etc. Attempts to increase the muscular development of the individual during youth are useful as prophylactic measures. The treatment of sympathetic hemicrania must be directed to the exciting lesions.

ART. 27.—On Paralysis with Wasting of Muscles.

By J. RUSSELL REYNOLDS, M.D., F.R.C.P.

(*The Lancet*, July 11.)

In this paper Dr. Reynolds draws attention to the clinical history, pathology, and treatment of paralysis. With regard to treatment, he says it is of the very highest importance that the nature of the affection should be recognized as soon as possible, and that the paralysis should be encountered vigorously.

The treatment which has been the most efficacious has been the judicious use of electricity—viz., its application, in proper form and in suitable intensity, to the affected muscles. It often happens that the recovery is complete; and this after several years' duration of the paralysis. The most efficacious application is that of the interrupted battery current; and a curious fact is commonly elicited by its continued use. You find, for example, a group of wasted, palsied muscles, inactive to faradisation, but responding readily to galvanism. You apply galvanism on several occasions, and observe that gradually some voluntary power returns, and with this a diminution of response to the agent you are employing. The same muscles were unaffected by faradisation at the first; but now—as their voluntary power returns and their contractility to the battery current diminishes—they act readily when the induced current is applied. At this period in the history of a case, Dr. Reynolds has found it desirable to change the form of electricity, and to employ faradisation carefully avoiding the use of such power as shall cause pain to the patient. Galvanism requires most patient exhibition in cases of this kind: for many months it should be continued, provided that there be the smallest improvement in voluntary power, or in the nutrition of the limb. When, after six or eight applications of both faradic and battery electricity, there has been no appearance of electric irritability, Dr. Reynolds has seen no good result from its continued use. It is probable that, under such circumstances, the muscles are so changed in structure, or rather so thoroughly destroyed in proper texture, that nothing can restore them; and the only thing that can be done is to prevent the deformity which might arise from the unopposed action of those other antagonistic groups of muscles which yet retain their integrity.

Electricity may have its action assisted by frictions and passive movements; but Dr. Reynolds has not seen any definite result, *quoad* the paralysis or wasting, from the exhibition of drugs. Of course, if the child be out of health, you would do your best to bring it into a more favorable condition; and in one case you would give alteratives, in another iron, in a third cod-liver oil, and the like. But your main object must be to treat the muscles, and to treat them without delay.

Your *prognosis*, in a case of infantile paralysis, is bad when the loss of voluntary power is absolute, when the wasting is extreme, and when, after three or four applications of electricity, you can detect no trace of contractility in the muscles. It is bad under such circumstances whether the disease be of old standing or of comparatively recent development. On the other hand, if some slight voluntary power remain, or even if, when it be lost altogether, you still find in the wasted limb some flickering contraction as you apply the battery

current, you may confidently expect a cure or a notable improvement, although the wasting and the paralysis may be highly marked, and although they may have existed for many years, provided that you will persevere steadily in directing the course of treatment here described.

ART. 28.—*On the Treatment of Epilepsy.*

By DAVID NELSON, M.D. Edin., Professor of the Principles and Practice of Medicine in Queen's College, and formerly Physician to the Queen's Hospital, Birmingham.

(*British Medical Journal*, June 20.)

After using all the various agents in numerous cases of epilepsy, and through many years, Dr. Nelson has never found any one of them to yield so much success as the oxide or the nitrate of silver, but especially the latter, given in doses of from one to three grains once, twice, or thrice a day, on the empty stomach, according to the ability of the stomach and intestines to bear it. In some cases he has given only one dose a day, and that on the empty stomach early in the morning. Whether the nitrate acts on the whole nervous system, or through the pneumogastric nerve upon the cerebral hemispheres, or subdues any hyperæmia and hyperæsthesia of the mucous surface of the stomach and intestines, Dr. Nelson does not in this brief paper stay to inquire.

ART. 29.—*On the Physiology of Pain.*¹

By Professor ROLLESTON, F.R.S.

(*Medical Times and Gazette*, August 29.)

The main points in this paper were—1st. The drawing attention to the fact that the authority of Dubois Raymond had been erroneously adduced by Niemeyer in support of the view which would ascribe the production of pain in neuralgia to arterial dilatation as opposed to arterial contraction. 2d. The writer adduced reasons for thinking that shock as well as vaso-motor disturbance could cause pain, as shown by Dr. Handfield Jones with reference to paralysis. 3d. He drew attention to the value of counter-irritation, especially of the fifth nerve, as a preventive or anæsthetic agent.

ART. 30.—*On General Paralysis of the Insane.*

By SAMUEL WILKS, M.D., F.R.C.P.

(*Medical Times and Gazette*, August 29.)

General paralysis of the insane, Dr. Wilks writes, is a disease in which the patient finally possesses little more than vegetable life. He sits in a chair or lies in bed perfectly helpless, and the mind gone. Now, you might suppose that this disease progresses gradually, and thus there is a gradual decay both of mental and physical power. Which of these begins to fail first is a disputed question amongst alienists. Inasmuch as the membranes are affected and the adjacent cortical structure, you might infer (from what has been already taught) that convulsive movements might be present, and so they are, epileptiform attacks being very frequent. As also the change is not simply a degenerative one, as seen in old age, but is a destruction due to a more active process, you might suppose that the dementia was ushered in by peculiar mental phenomena. This is so. The mental peculiarities are almost characteristic of the disease. The patient's mind is excited to the formation of the most extra-

¹ Abstract of a paper read at the annual meeting of the British Association for the Advancement of Science.

gant ideas; he believes himself to be some exalted personage, to be inhabiting a palace, and to be possessed of enormous wealth. Thus it is that this disease is styled by the French "paralysie ambitieuse."

Here, then, is a chronic disease of the cerebro-spinal centres having the same relation to acute inflammation as phthisis has to pneumonia, or a chronic rheumatic arthritis to an acute synovitis, or, more appropriately, a chronic Bright's disease to an acute nephritis. The disease has a duration of about four or five years, and then terminates fatally. After death you find a marked degeneration or destruction of the most important parts of the brain, the gray substance more especially, but no portion of the whole cerebrum is excluded from the process. The membranes—that is, the visceral arachnoid and pia mater—are much thickened and closely adherent to the surface, so that on an attempt to remove them the cineritious structure is torn. In this gray substance the ganglionic cells would be found to have completely degenerated and altered in form and color. Associated with them are amylaceous bodies and a quantity of new connective tissue which binds the whole together and hardens it. Sometimes numerous bloodvessels are seen, and small extravasations of blood; also considerable extravasations are often seen to have occurred on the surface, and organized into membranes.

In many cases, one of the most striking alterations is to be found in the bloodvessels; thus in one specimen in the museum, when a section was made, the vessels stood out like so many bristles. They could be pulled out of the brain to the length of several inches, and had undergone a most remarkable calcareous change. The patient was comparatively young, and such an alteration I have never met with in older persons with diseased cerebral vessels. This was an evident and marked change, but besides this it is said that the microscope is able to display even more distinct alterations in the vessels. Dr. Sankey has shown that the vessels become tortuous, and put on a varicose appearance from protuberances on their surface, owing to a thickening of the walls. Indeed, the disease has been regarded in a pathological point of view as a case where there was hypertrophy of the connective tissue in the small arteries and veins of the pia mater of the cortical portion of brain. At the time these observations were made, the anatomy of the bloodvessels of the brain were not so well known as it has been of late, and therefore it would be necessary to compare these diseased vessels with those which may be regarded as normal, as delineated by Professors His and Bastian. These gentlemen have shown that the bloodvessels of the brain are normally surrounded with a case, or rather they are contained in sheaths styled perivascular canals, and which some have regarded as lymphatics. With this new light our specimens must be studied afresh. As you might suppose, the disease does not end here, but affects the brain as a whole, and at the same time the spinal cord. Several cases have been recorded where the medullary matter was so hardened by the chronic inflammatory process and the production of adventitious matter that the gray matter could be scraped off, leaving the form of the convolutions in the white matter beneath. The spinal cord is also atrophied. In a spinal cord sent to me from an asylum I found gray degeneration of the posterior columns with abundance of amylaceous bodies; but the history not being good, I thought it better not to publish it. The fact, however, remains, that as a result of the morbid process which takes place, the cineritious structure is atrophied and converted into an inert mass. The brain, as a whole, is degenerated, including the central ganglia, and also the spinal cord.

We have, then, this disease styled "dementia paralytica," or the "general paralysis of the insane;" by the French "folie paralytique," or "paralysie ambitieuse." Pathologically it would be styled "meningo-cerebritis chronica" or "peri-encephalo-meningitis." It is a case of paralysis of body and mind, commencing with a physical weakness or some alteration in the manners or character of the patient. It is a question which takes the lead, the psychical or physical derangement. Those who have recorded most cases agree that the mental aberration is the first symptom discernible. I think it is Dr. Blandford who has insisted on the mental alienation being the first and most important symptom, and that even the defect of speech does not at that time prove a necessary

motor lesion, since by a strong effort of the will the stammering may be overcome. As regards the bodily symptoms, they are those of gradual progressing paralysis; there is a tottering in the gait, a want of power in articulation, and an evident paralysis of the muscles of the face. The commencing paralysis of the muscles of the face produces a vacant expression, which is at once recognized by the experienced medical man, and as soon as the patient talks his mode of articulation at once characterizes the disease; he speaks thick, and clips his words like a drunken man. There is no necessary connection between paralysis of the face and insanity, but still, in a case where the brain is approaching decay, it might be the first symptom recognizable. Thus, from the earliest ages, a madman was characterized by an altered mode of speech and by an inability to hold his saliva. In this disease there is a vacant expression, the articulation is indistinct, and the tongue is protruded with difficulty or wavers. Afterwards the paralysis extends to all parts; there is a weakness of the limbs, and the patient walks unsteadily, like a drunken man. When it is said that the paralysis begins above and then affects the body, this is often only apparent, and because a change in the muscles of the face is more easily distinguishable. Thus, in a man who was in the hospital some time ago, there was the tremor of lips and tongue, as well as hesitating speech; but the man could grasp with his hands most powerfully, and when asked to walk would step out with vigor, and said he could continue for miles. It might thus have been inferred that he had perfect control over his limbs; but I caused him to write, and the tremor of the hand was evident, as you will see by this specimen, where every letter is formed by a dozen or twenty different strokes; and when he walked his gait was seen to be unsteady, although we had no opportunity of testing the amount of control over his limbs. If ever you go to a lunatic asylum, you may observe persons with this disease playing at cricket, and then you will perceive that, although they run and hit the ball, they do it in so awkward and grotesque a manner that it looks like a burlesque on the game. The appearance of a drunken man will give you some idea of a patient thus affected—in fact, a drunken man might be said to have an acute general paralysis of the insane. I should have mentioned also a fact which is very common in many brain diseases—that the pupils are, as a rule, unequal in size, and both contracted more than natural. I had lately an opportunity of proving the importance of this symptom. A gentleman died, of what was evidently general paralysis, about two years after his life was insured, when of course some investigation was made as to his state of health at the time the insurance was effected. It was then known that he was suffering from general nervous debility, attributed to over-study at college, and it was also known that one pupil was larger than the other. The two facts were not associated by the medical adviser; but the proposer of the assurance was sent to an ophthalmic surgeon, who declared that there was no organic disease of the eye. His life was then accepted.

As regards the mental symptoms, these may show themselves by a mere failure of power, or inability to attend to business or the ordinary affairs of life, or are perhaps exhibited, in a more striking manner, by strange behavior towards those with whom he associates, and by certain likes and dislikes in his own family. The tendency is towards dementia, seen in the memory failing and the mistakes which are made in the transactions of business. Then he will have delusions, and his mind becomes wholly deranged; but instead of growing melancholy, he becomes elated, or is, as the French say, "gay"—he has exalted ideas. These are not necessarily of the kind before mentioned, but, in cases I have seen, are rather extravagant ideas. The greatness of the man has been not merely exhibited by his boast of immense wealth, but everything around him appears to him on a larger scale, as a patient informed me that his house was a mile high, and that he had a hundred ribs, and that he could kill a thousand pigeons at a shot. They are often rather extravagant than ambitious ideas. I used amongst my out-patients, to have a postman led in by his wife, as he could scarcely stand. When asked how he was, he smiled, said he was very well, was about to resume his occupation, saying he could walk for miles. Strange that the patient, not feeling ill, will deceive others. Thus, not long ago, a patient staggered into my room, accompanied by his wife, and having all

the well-marked symptoms of dementia paralytica; but both of them for some time warded off my questions regarding his brain or the state of his mind, since, as they said, they had come to consult me about the sudden "bilious attacks" to which he was liable. These persons, I might say, are often subject to these so-called affections of the liver.

Causes.—It would appear that in this form of insanity there is not found the same strong hereditary disposition to it as in other forms of the disease; and this quite accords with our knowledge that it may be set up by accidental causes. No doubt overwork, or wear and tear on the nervous system in a person of excitable temperament, might develop the disease; but at the same time it does seem capable of being produced by altogether accidental circumstances.

As regards diagnosis, we must be led by a number of circumstances before we form a conclusion. In most cases there is the general paralysis, with the peculiar mental defect before mentioned, and a certain morbid condition found after death. Take these together, they characterize a disease deserving of a special name, but it does not follow that some one symptom may not be absent, and thus we must not style every case where there is bodily and mental defect a case of "dementia paralytica," which has at the present day a very definite signification. For instance, a bodily and mental paralysis exists in mere atrophy of the brain arising from many causes—as excessive spirit-drinking or mere old age—but in the disease of which I speak the destruction of brain has come about in a peculiar way, and the symptoms are necessarily almost characteristic. There are also cases of disease commencing in the spine and subsequently creeping up to the head, and which, strictly speaking, are cases of general paralysis. Some of the most remarkable instances of this kind have been those where an injury has been received, causing in the first instance symptoms of paraplegia, and subsequently of cerebral palsy. I believe I have in my recollection some knowledge of a case which terminated with all the symptoms of the general paralysis of the insane, and which resulted from a severe injury to the spine. An alienist physician could not allow, however, that the condition was the same, for it would contradict his strict rule that the brain, or at least the mind, is first affected. The distinction is one of immense importance in a legal point of view, for, although we may meet with numerous cases which being strictly interpreted would demand the appellation general paralysis, yet it is best to withhold the term, for I believe I am right in saying that in a court of justice an expert who used this expression would necessarily imply that the patient was mentally incapable at the very first moment that any symptom of general paralysis exhibited itself.

Many years ago I had the advantage of attending a course of lectures delivered by Dr. Conolly at Hanwell, and I remember that he made the following statement, which I believe is quite correct—that general paralysis of the insane occurs mostly amongst the lower orders, and thus is seen much more frequently in public than private asylums; also that it occurs much less frequently in women, and I think he went so far as to say that he had never seen an example of the disease in a lady of the upper classes of society. I cannot but think that these facts tend to corroborate the idea that the disease is often induced by accidental causes, such as direct injuries to the head.

I believe I am right in saying that there are some in the profession who deny the broad statement that the disease is incurable, and necessarily fatal in a given period. I can venture no opinion on the subject, but there appears no *a priori* objection to the disease being recovered from in its earliest stages.

ART. 31.—*Thermometric Observations on Epidemic Cerebro-Spinal Meningitis.*

By THOMAS WRIGLEY GRIMSHAW, M. D., Dub., Physician to Cork Street Fever Hospital, Dublin ; Lecturer on Materia Medica in Dr. Stevens's Hospital, &c.

(*British Medical Journal*, October 24.)

From the cases and observations contained in this paper, we may, Dr. Grimshaw thinks, arrive at the following conclusions with regard to the thermometry of this disease. 1. That it has no typical range of temperature. 2. That the temperature seldom exceeds 100 deg. in mild cases ; 103 deg. in rapidly fatal or moderately severe cases ; or 104 in any. 3. That the degree of temperature and frequency of pulse have not that accord usually found in acute disease ; although the accordance is usually much closer in favorable than unfavorable cases. 4. That variations in temperature seldom precede, but usually (when at all related to) accompany variations in other symptoms. 5. That low temperatures (95 or 96 degs.) usually indicate a severe case, or bad result. 6. That high temperatures (over 104 deg.) indicate a severe case. 7. That great and frequent variations of temperature indicate a serious and prolonged case, with a very doubtful result.

ART. 32.—*On Paraplegia.*

By SAMUEL WILKS, M. D., Physician to and Lecturer on the Practice of Medicine at Guy's Hospital.

(*Medical Times and Gazette*, October 24.)

When disease of the spinal cord has commenced, Dr. Wilks writes, some loss of power ensues, which is soon evidenced by the difficulty in walking, and more especially in the ascent or descent of stairs. The inability to raise the legs is seen by the patient's stumbling up a step, or even over a stone in the street. The effort which a paralyzed patient makes to move will generally distinguish the weakness of the legs from any rheumatic or other affection, and in a woman from hysterical paralysis. The feet flop down, and the power of pointing them in a given position is gone. Then, again, one of the best evidences of diseased cord is shown in the paralysis of the bladder. First, the want of power in emptying the organ without much straining, and subsequently its becoming fully charged and running over. Later in the disease there is a paralysis of the rectum. Other organs also sometimes suffer from the deficiency of nervous influence, as, for example, the digestive organs, and thus flatulence and sickness may become attendant symptoms. If the disease progresses, the patient becomes perfectly helpless and bedridden. In such a case death does not result directly from destruction of the cord, except the upper part be affected, when the chest loses its power of mobility, and life cannot hold out long ; but death takes place from secondary causes. A bed sore may form, which may be sufficiently extensive to exhaust the patient, or, what is more common, the bladder becomes inflamed, and the irritation there set up is propagated to the kidney, when a suppurative nephritis occurs, and a speedy fatal result.

The pupils of the eyes are sometimes affected in spinal disease, being influenced, it is supposed, through the sympathetic nerves in the neck. Thus we often see minutely contracted pupils, or an inequality in size, and in one patient of mine there was an amaurotic condition, which was recovered from during the cure of the paraplegia.

In all spinal affections we look to the back in order to discover if there be any disease in the vertebral column, and we generally percuss it. As regards any value to be derived from this method, Dr. Wilks thinks we must set it down as very small. We of course examine the spine, for by so doing we may dis-

cover a projection or a growth; but as for informing us of the condition of the medulla within it, percussion seldom does that. Of course, should disease exist between any of the vertebræ, any violent jar on the back would be likely to produce discomfort; but, as a rule, in slowly progressing disease of the cord, as in the majority of cases of paraplegia which we meet with, there would be no pain produced. At the same time, a sensitiveness of the spine is very common, but generally implies a simple functional hyperæsthesia. Dr. Wilks believes that if we tested the value of this method of diagnosis by the rule of averages, we should find pain mostly absent in organic diseases of the cord, and present in those persons who suffered merely from nervous excitability. But each case must be taken on its merits. Thus in an adult man, who showed no evidence of a nervous temperament, a permanent tenderness over one spot when disease was otherwise indicated would be of immense importance in the diagnosis. On the other hand, in the case of a girl who was said to have spinal affection owing to the existence of a variety of nervous symptoms, the diagnosis of a purely functional disturbance would be rather corroborated than contradicted by the presence of tenderness over the spine. Moreover, the tenderness on pressure, if indicative of local disease, is referable mostly to a change in the bone; whereas, in the majority of cases of paraplegia, the disease of the cord is quite independent of the vertebral column.

In speaking of that most remarkable affection which is sometimes known as acute ascending paralysis, Dr. Wilks says he can scarcely tell what is the nature of the change which takes place in the cord, for it propagates itself from end to end like wild-fire. In seeing such cases, he is reminded of a spark alighting on a piece of touch-paper, and the fire running through its length until the whole is quickly consumed. A patient may feel such numbness or loss of power in the feet, soon followed by utter inability to move the legs; then paralysis of the upper part of the body, including arms and chest, until in three or four days death ends the scene. Whether the change in the cord be due to some rapidly degenerative process in the fibrillæ, whether it be inflammatory, or whether the alteration be only that which may be called dynamic, has yet to be determined. Dr. Wilks relates three such cases which he has witnessed.

ART. 33.—On Disturbances of the Visual Apparatus in Patients affected with General Paralysis.¹

By M. MAGNAN.

(*Gazette Médicale*, No. 35, 1868.)

The apparatus of vision has from the time of the earliest researches on general paralysis, attracted the attention of physicians, and formed in all its parts the object of particular study. The phenomena that have been observed are those of disturbed motility depending upon the muscles of animal life and also those of organic life, and sometimes those of lesions of the optic nerve and retina.

The following changes have been noted:—

1. The state of the eyebrows: depression of the internal portion of the eyebrows (M. Bellod), elevation or depression of the median portion (M. Moreau), phenomena which bear a relation to the mask of a paralytic subject, produced by a shrinking of the prominent marks of the face.
 2. The state of the lids, with paralysis more or less complete of the upper eyelid.
 3. Deviations of the globe of the eye inwards, outwards, upwards, and downwards, constituting the different varieties of strabismus.
- These disturbances of motility are in connection with the functions of the nerves of the third, fourth, and sixth pairs.
4. Increase in the convexity of the ocular globe (M. Moreau). The promi-

¹ Paper communicated to the Société de Biologie.

nence of the globe of the eye, and also the sinking which is sometimes observed, are two phenomena which the progress of modern anatomy and physiology has taught us to explain in a very clear manner.

In October, 1868, M. Sappey, in a communication to the Académie des Sciences, described several bundles of smooth muscular fibre which he had found in the orbit. In the following month, MM. Prevost and Jolyet showed that the forward movement of the globe of the eye produced under the influence of excitation of the superior end of the great sympathetic, after section of this nerve in the neck, presents the characters of movements produced by the muscles of organic life, and depends on contraction of the smooth fibres which form part of the orbital aponeurosis. This aponeurosis, in fact, owing to the layer of smooth fibres with which it is covered, forms a fibro-muscular sheath, a kind of contractile covering, conical in form, and with a focal base directed forwards, which by contracting presses upon the posterior part of the globe and projects it forwards. On the other hand, it is known that after section of the sympathetic nerve in the neck, among other phenomena, is observed retraction of the globe of the eye towards the bottom of the orbit.

5. Disturbed conditions of the pupil, which no physician of modern times fails to report in his observations, consist in dilatation, in contraction, in inequality, or even in irregularity of contour. These phenomena, which may at once be attributed to the influence of the great sympathetic or third pair, may in certain circumstances become an important clinical sign.

6. Condition of the fundus of the eye explored by the ophthalmoscope. Isolated facts have been reported by various authors, most of which relate to atrophy of the papilla. M. Galezowski, from his numerous observations at the Salpêtrière, has pointed out that anæmia and progressive atrophy of the papilla were presented whenever the vision of patients affected with general paralysis became disturbed. This skilful ophthalmologist has subsequently described a peripapillar œdema which is met with in some cases, and presents itself in the form of a brownish circle.

M. Magnan has himself submitted these different statements to proof, and has examined every patient with general paralysis who has been under his notice; he has been enabled to assure himself that in at least two-thirds of the cases of general paralysis no morbid changes at the fundus of the eye can be found.

The modifications which M. Magnan has made out are in their order of frequency the following: a special morbid change of the vascular system, in which one may perceive along, and on both sides of each of the vessels proceeding from the centre of the papilla, a pale gray and regular band which generally extends in a uniform manner along the whole length of each vessel. This band is seen in connection with the arteries, rarely with the veins, where it is less developed. This morbid change differs from the slightly yellow band found occasionally upon the vessels, more particularly the arteries in cases of senile dementia; this latter band is irregular, presents inequalities at the borders, and sometimes interruptions in its walls.

The aspect of the vessels in certain cases of general paralysis and senile dementia is in relation with what we know of the anatomical changes which occur in the walls of the cerebral vessels in cases of sclerosis in general paralysis, and atheroma in senile dementia.

These two forms of deposit differ from the irregular and diffused appearances presented by the contours of the vessels, the veins more particularly, in the neighborhood of the papilla in certain cases of œdema of the retina.

When this band-like deposit about the vessels exists in paralytic patients, it is generally observed in both eyes: it may, however, be present in one eye only, and even visible upon only a single vessel.

The peripapillar œdema also has special characters; it is brownish in color, and sometimes presents a kind of gelatinous reflection; the obscurity of the papilla is not generally observed, as a small free space is left between the œdema and the papillar border. The peripapillar œdema is not always continuous, and is sometimes visible along one-third or one-fourth of the circumference of the papilla.

The vessels in the region of this cedematous circle undergo a slight bending, and are sometimes slightly veiled.

Papillar anæmia and atrophy of the papilla presenting the characters so well described by M. Galezowski, are not, according to M. Magnan, very frequent lesions in cases of general paralysis.

M. Magnan has discovered in some cases a papillar congestion with a rosy tint and slight opacity of the papilla, dilatation of the vessels, the veins particularly, and a clearer view of the small peripapillar vessels. This papillar hyperæmia is presented by paralytic subjects in the first stage of the disease; it is without doubt the preliminary step in the morbid processes which at a later period result in anæmia and atrophy.

ART. 34.—*Report of a Fatal Case of Acute Progressive Paralysis.*

By GEORGE HARLEY, M.D., F.R.C.P.

(*Medical Times and Gazette*, September 5.)

At a meeting of the Royal Medical and Chirurgical Society, held June 23d, Dr. Harley related a fatal case of acute progressive paralysis from softening and disintegration of spinal cord, especially in the anterior columns; with loss of movement, without corresponding loss of sensation. This case is not only an important one, as being a marked example of a rare form of disease, but also has the additional, though melancholy, interest attached to it of having occurred in a member of the family of one of our own profession. The patient, a well-developed, strongly-built youth of seventeen years of age, had been perfectly well until a month previously, when he felt a slight aching in the limbs, and stiffness of the neck, which he attributed to cold. So trifling were these symptoms that he went to his office as usual, and it was not until within four days of his death that he experienced difficulty in walking, although he dragged his legs slightly. He was still able to walk to his office, but during the course of the day, while sitting on a high office stool, he began to feel as if his legs were paralyzed, and accordingly was taken home in a cab. On his arrival at home, although he could not walk up stairs, he was yet able to stand, undress himself, and go to bed, and it was not until the next day, only two before the disease proved fatal, that it was considered necessary to have medical advice. Mr. Jakins, of Osnaburgh Street, was then asked to see him, and found the pulse 66, the pupils dilated, and the tongue furred. The patient complained of no pain, but only that his legs were paralyzed; also that his tongue felt tired after much speaking. His swallowing was perfect; the bowels were sluggish, but he made water naturally. He was ordered one-thirtieth of a grain of strychnia every four hours. No improvement took place on the Friday, and the strychnine was discontinued in the evening after the twelfth dose. Next morning, the day upon which the patient died, the paralytic symptoms having increased, and the pulse risen to 90, Mr. Jakins sought the co-operation of Mr. Newton, of Wimpole Street; and in the course of the same afternoon, the symptoms assuming a more serious aspect, Professor Harley was asked to join these gentlemen in consultation. On arriving at the house, at about four o'clock in the afternoon, Dr. Harley found the patient lying on his left side, with the lower extremities completely paralyzed, the upper partially so; he could still move his arms, but had not strength sufficient to squeeze the hand. The patient's intelligence was perfect, and he said he felt no pain. The spinal motor nerves were alone paralyzed; the sensory appeared all right, for he felt the slightest touch throughout every part of the paralyzed tract. There was great difficulty in breathing, the respiration being slow and labored, each inspiration being made with evident effort. The pulse was 120; the tongue furred; temperature felt natural to the hand; there was no fever. The patient said he had that morning, for the first time, had difficulty in voiding feces, but none in making water. The difficulty in breathing was gradually increasing, and the power of swallowing had been lost within a few hours; the sense of taste, however, still remained acute. A few leading questions, and one or two physiological tests, at once revealed the

nature of the case, and although Dr. Harley had never before witnessed a human being dying under similar conditions, the experiments which he had witnessed on lower animals left no doubt of the cause of the symptoms nor of the prognosis. For he had often watched the course of the termination of the same series of phenomena artificially induced in animals—complete paralysis of the spinal motor nerves, with their corresponding sensory branches unaffected; the perfect intelligence, and yet the unconscious dying, as it were, by inches; therefore, notwithstanding the cheerfulness of the patient, he knew that life could not be prolonged beyond two or three hours at most. This opinion was based upon a rapid calculation he had made of the progressive march upwards of the disease since the morning. The prognosis was indeed but too soon verified, for the poor patient died exactly in the manner predicted—namely, asphyxiated, just two hours after the consultation, the intelligence remaining perfect until the end. The post-mortem was made on the following day; but Dr. Harley was unable to be present. Fortunately, however, he secured the services of Mr. Lockhart Clarke, who gives the following account of the post-mortem appearances:—

Post-mortem Examination by Mr. Lockhart Clarke.—The pia mater of the cord was very much congested. The anterior columns, from the lower part of the eighth dorsal to the first lumbar nerves, were considerably softened; the posterior white columns being only slightly softened. Various portions of the gray substance were damaged by granular or fluid disintegration, including the anterior commissure. These lesions were greatest at the ninth and twelfth dorsal nerves. At the tenth dorsal they consisted chiefly of softening of the anterior columns at the entrance of the anterior roots. The conus medullaris below the lumbar enlargement, as well as the two upper thirds of the cord, were not much affected. The cervical enlargement was much congested, particularly the anterior columns, where a granular exudation, in some places, enveloped the roots of the nerves. At the upper third of this region there were areas of granular and fluid exudation, which continued upwards, with some increase, as high as the second cervical nerves. For about the same length of the cord, also, the deep portions of the posterior white columns between the horns were softened to a considerable degree, and the anterior roots of the nerves were, in some places, still enveloped in exudation from the surface of the pia mater. From the first cervical nerves upwards nothing remarkable was observed. The whole of the medulla oblongata and fourth ventricle appeared to be perfectly healthy.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 35.—*Treatment of the Asthmatic Paroxysm by the Inhalation of the Fumes of burning Nitre Paper.*

By HENRY HYDE SALTER, M. D., F. R. S.

(On Asthma; its Pathology and Treatment.)

The value of nitre paper in any given case is, in Dr. Salter's opinion, in proportion to the purity of the asthma in that case—the cure it effects is only complete where the asthma is of the pure spasmodic type, and free from organic complications. In three of the cases related by Dr. Salter in his work on *Asthma*, and others of which he has not preserved notes, it was of very little use when the attack was complicated with bronchitis.

Dr. Salter gives a few practical hints with regard to the making of the nitre paper. And this, he says, is not an unimportant point, for patients will find it more convenient to prepare the paper themselves, and unless it is properly made it will not produce its beneficial results. The object is to have as much deflagration of nitre and as little combustion of paper as possible. For that purpose the paper must not be very thin, or it will not take up sufficient nitre; nor very thick, or it will make the fumes too carbonaceous; but it must be moderately thick and very porous and loose in its texture, so as to imbibe a

sufficiency of the solution. The strength of the solution should be saturate at the ordinary temperature. If a saturate solution is made with warm water, and the paper is very bibulous, it becomes too much impregnated with nitre—too strong a paper, and burns too fast, with a sudden explosive flame. There should be no brown smoke in its combustion, but light, clear, white fumes. Those who have a good deal of experience with this remedy, say that they find the red blotting-paper, of moderate substance, the best. Some blotting or filtering papers appear to have a good deal of wool in them; they are loose, thick, and coarse. They should be particularly avoided, as they yield, on burning, a smoke of particularly irritating and offensive kind, with a smell something like that of brown-paper smoke, only worse. The nitre-paper, when once made, should be kept in a dry place, and then will not be the worse for any amount of keeping; but if it gets damp it does not burn with sufficient freedom, and should then be dried before using.

The following is the way in which an asthmatic gentleman told Dr. Salter he has been accustomed to make a paper that answers perfectly well: "Dissolve four ounces of saltpetre in half a pint of boiling water; pour the liquor into a small waiter, just wide enough to take the paper; then draw it through the liquor and dry it by the fire; cut it into pieces about four inches square, and burn one piece in the bedroom on retiring to rest at bedtime." Dr. Salter has tried this method of preparing the paper himself, and finds that it burns perfectly well, and is very efficacious; but he thinks *two* such pieces are not at all too much to burn at once.

ART. 36.—*On the Influence of Locality in the Treatment of Asthma.*

By HENRY HYDE SALTER, M.D., F.R.S., Physician to Charing Cross Hospital.

(On Asthma; its Pathology and Treatment.)

The following are the conclusions at which Dr. Salter has arrived, and which he thinks the cases cited in the chapter on the *Therapeutical Influence of Locality*, in his valuable work on *Asthma; its Pathology and Treatment*, sufficiently establish—

1. That residence in one locality will cure, radically and permanently cure, asthma resisting all treatment in another locality.
2. That the localities that are the most beneficial to the largest number of cases, are large, populous, and smoky cities.
3. That this effect of locality depends probably on the air.
4. That the worse the air for the general health, the better, as a rule, for asthma; thus the worst parts of cities are the best, and conversely.
5. That this is not always the case, the very reverse being sometimes so—a city air not being tolerated, and an open pure air effecting a cure.
6. That there is no end of the apparent caprice of asthma in this respect, the most varying and opposite airs unaccountably curing.
7. That, consequently, it is impossible to predict what will be the effect of any given air, but that probably the most opposite to that in which the asthma seems worst will cure.
8. That some of these differences determining the presence or cure of asthma appear to be of the slightest possible kind, arbitrary and inscrutable.
9. That the mere conditions of locality appear to be adequate to the production of asthma in a person whose disposition to it was never before suspected, and who probably would never have had it had he not gone to such a locality.
10. That, consequently, many healthy persons, who never have had asthma, and never may, would probably be asthmatics if their life had been cast in other localities.
11. That possibly there is no case of asthma that might not be cured, if the right air could only be found.
12. That the disposition is not eradicated, merely suspended, and immediately shows itself on a recurrence to the original injurious air.

13. That change of air, as change, is prejudicial.

14. That, from the caprice of asthma, the constancy of the results in any given case is often deranged.

ART. 37.—On Dietetic and Regimenal Treatment of Asthma.

By HYDE SALTER, M. D., F. R. S.

(*On Asthma; its Pathology and Treatment.*)

In no direction is asthma more accessible than through the stomach. Of all forms of prophylactic treatment none, Dr. Salter writes, with the exception of change of residence, is more successful than that which is regimenal.

The rules for the dietetic treatment of asthma, and the reasons for them, may be summed up as follows:—

1. The tendency of food to produce asthma is greatly increased by the state of sleep; therefore nothing should be taken after such a time, as digestion and absorption may be completely over—in the stomach and small intestines, and even the lacteals quite empty—before bedtime.

2. This long fast before sleep involves a long period of inanition; therefore, the asthmatic should break his fast early and heartily.

3. The quantity of food the asthmatic takes should be small; therefore it should be highly nutritious.

4. As a rule, the tendency of food to produce asthma is in direct proportion to its general indigestibility; therefore the asthmatic's diet should be of the simplest and plainest kind.

5. But there are some articles of diet that have a special tendency to produce asthma; therefore from these the asthmatic should exercise the strictest abstention.

ART. 38.—Treatment of Diphtheria.

By HENRY HARTSHORNE, M.D., Professor of Hygiene in the University of Pennsylvania.

(*Essentials of the Principles and Practice of Medicine. A Handy Book for Students and Practitioners.*)

The author writes: "No specific remedy having been discovered for this disease, we must be governed in our tentative treatment of it by our idea of its nature; while concluding upon its therapeutics, finally, through experience. Nothing, it may be confessed, is very satisfactory, as yet, in the management of bad cases of it. All agree that it is not a mere local inflammation, but a systemic affection primarily; and that its type is most generally asthenic. Much depletion is therefore not to be thought of. I would never bleed from the arm in diphtheria. In simple, open cases, I have used leeches to the throat, with seeming decided advantage within the first three days; even their use, however, must be exceptional. Moderate purgation, as with citrate of magnesia, or Rochelle salt at the very beginning, is well in the simple and croupal, though not in the malignant form.

"Chlorate of potassa is a favorite medicine with many in this disease. My best results in bad cases have attended its early and free use. An adult may take twenty grains in solution every three hours; I have given five grains every two hours to a child five or six years old.

"Tincture of chloride of iron is relied upon by some; from ten to twenty drops every three hours for an adult, with or without the chlorate of potassa. Sulphate of quinine is also given, alone, or at the same time with the above remedies, by a number of practitioners; say of quinine, for an adult, a grain every two or three hours.

"Besides these, or instead of them, for internal use, permanganate of potassa has, after some trial, the recommendation of one or two observers. A drachm of it may be dissolved in a pint and a half of water, a fluidrachm of this being

taken every hour. Sulphite of soda, ten grains every two or three hours, is worthy of trial in this, as in other zymotic diseases.

"Concentrated liquid food must, as a rule, be given throughout an attack of diphtheria: milk, beef-tea, and very often wine whey or brandy or whiskey punch; in small quantities at short intervals, according to the degree of prostration present.

"Local treatment is, by most physicians, regarded as very important. Experience has shown, I think, that it ought not to be violent. Ice in small pieces melted in the mouth slowly, is probably as useful as any application. Muriatic acid and honey, equal parts, applied freely with a large camel's-hair pencil; or diluted with water and used as a gargle, I believe to be serviceable. Creasote dissolved in glycerine,¹ lime-water; chlorinated soda dissolved in twenty parts of water; and permanganate of potassa, a drachm in a pint, make also appropriate gargles. In a young child ice is often the only local application possible without a struggle so disturbing as to make the benefit of it doubtful. Cold water compresses may be applied outside of the throat in the early stage, while there is excess of heat. Later, flannel wrung out of hot water to which an equal amount of spirits or vinegar has been added, will give more comfort.

"Inhalation of the steam of lime-water is worthy of trial in diphtheria, especially in the croupous variety; or the *atomization* of lime-water by the *nephogene* or some other apparatus constructed for the purpose.

"But, I believe the local treatment to be, after all, secondary. And especially is the effort (which I have seen practised) to remove the patches of exudation by force, as by excision or actual cauterization, to be deprecated, as likely to do harm rather than good."

ART. 39.—*Treatment of Asthma.*

By HENRY HYDE SALTER, M.D., F.R.S.

(*On Asthma; its Pathology and Treatment.*)

In speaking of the treatment of asthma, Dr. Salter alludes to certain hygienic rules and plans of self-management, to which sufferers from asthma may with advantage subject themselves, and to certain tonic agents, whose employment, by elevating the standard of the general health and imparting to it a braced robustness, exerts a very marked efficacy in diminishing the tendency to that special nervous perturbation which manifests itself in the asthmatic paroxysm. The principal of these are: Sustained exercise; shower-bath; tonic medicines; avoidance of cold; a rigorous regularity of life.

1. *Exercise.*—Dr. Salter has seen several cases in which prolonged bodily exertion has been of great benefit; indeed, some in which it has been the best remedy to which the asthmatic could resort. This treatment is, of course, rather prophylactic than curative—it must be taken in the intervals of the attack.

2. *Shower-bath.*—Dr. Salter thinks that it is a law without an exception that nervous affections are less prone to occur in proportion to the general bodily vigor, and what, for want of a more definite term, we must call the *tone* of the nervous system. Anything, therefore, that corroborates and invigorates renders asthmatics less prone to their attacks. In this way the shock of the shower-bath, or sponge-bath, or sea-bathing, is often of great service to asthmatics. By raising the standard of the general health they also tend to prevent those humoral derangements which are often the exciting cause of asthma.

3. *Tonics.*—Of all tonics in asthma, Dr. Salter thinks quinine the best; and next to quinine, iron. The tonic that he commonly orders, and from which he has seen the best effect, is a combination of iron, quinine, and a mineral acid.

4. *Avoidance of Cold.*—Exposure of the external surface to cold is apt to

¹ Creasote, 4 to 8 drops; glycerine and water, of each 2 fluidounces.

induce asthma in two ways—immediately and directly, or remotely, through the intervention of bronchitis. Asthmatics should therefore wear flannel next their skins; they should vary the amount of their clothing in proportion to the temperature; they should immediately change wet garments, avoid cold after perspiring, and take all other precautions for precluding catarrh.

5. Lastly, there is one general rule, which, trifling as it may seem, is perhaps exceeded in importance by none, and by attending to which the asthmatic may do more to evade his attacks than by any other. It is, to establish a rigorous uniformity of life, to make one day the exact counterpart of another, and to avoid irregularities of every kind. Dr. Salter would enforce the great importance of the asthmatic's guarding himself from all possible sources of offence by tying himself down to a life of monotonous regularity.

In conclusion, Dr. Salter mentions some methods of treatment which he has been informed have been employed with advantage, but of which he can say nothing from his own personal experience.

Inhalation of Powdered Alum.—Dr. Salter has heard of two cases in which this treatment has been successfully employed; but he very much suspects they were rather cases of chronic bronchitis than asthma. That the local application of an astringent might do good to a congested and tumid mucous membrane is intelligible; but that the application of alum could relieve muscular spasm he cannot believe.

Inhalation of Nitro-hydrochloric Acid Vapor.—The inhalation of nitro-hydrochloric acid diluted with aqueous vapor Dr. Salter has also heard recommended; but he should imagine that this would act in the same way, and be appropriate for the same kind of cases as the alum.

Inhalation of Oxygen Gas the author has tried in many instances, not only in asthma but in bronchitis and other apnoæal states, but has never seen any real and substantial benefit derived from it. Another plan of treatment which has been tried extensively, and which, Dr. Salter thinks, is the same in principle as the oxygen inhalation, is the *respiration of compressed air*. At the hydro-pathic establishment at Ben Rhydding, in Yorkshire, and at Montpellier and Nice, this treatment has been in operation for some time, and from the accounts that the author has heard from intelligent eye-witnesses of its effects, as well as on its own merits, he should think very favorably of it, as far as the fact of its giving temporary relief goes. The patient is placed, in a sitting position, in an air-tight chamber, into which additional air is forced under gradually-increasing pressure, till the required condensation is attained; at this point it is maintained for a certain time, according to the prescribed length of the *séance*, and then gradually lowered.

There is one agent against the employment of which Dr. Salter would earnestly caution his readers: it is *galvanism*—the passing galvanic shocks through the chest. He objects to it both on theoretical and practical grounds. He has known it do great harm; he has known it bring on an attack in a patient at the time free from asthma; and he has known it aggravate existing spasm; but he has never known it do any good.

ART. 40.—*The Pathology and Treatment of Acute Capillary Bronchitis.*¹

By J. K. SPENDER, M.B.

(*British Medical Journal*, August 22.)

Dr. Spender noticed, first, the distinct nosological entity of this very fatal disease. The three symptoms specially entitled to clinical study were—the abnormal pulse and breath ratio, with the intense dyspnoea; the character of the sputum, which was partly a true exudation, and partly an effusion from the bronchial veins; and the condition of so-called collapse, with the quasi-cyanosis of the skin. The diagnosis from acute tuberculosis is not always easy at the first glance. The treatment recommended was by small and very frequent

¹ Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association.

doses of alcohol and sesqui-carbonate of ammonia, alternating with each other; and as much fresh milk as could be taken. A warm, moist atmosphere is of the highest use. Tonics are necessary during the convalescent stage. Any treatment is useless which is not begun very early.

ART. 41.—On Croup.

By THOMAS INMAN, M.D., Physician to the Liverpool Royal Infirmary.
(*The Liverpool Medical and Surgical Reports*, and *Dublin Quarterly Journal of Medical Science*, May.)

The following are the conclusions at which Dr. Inman arrives as to the treatment of this affection:—

"1. In slight cases no medicaments are necessary; hot, moist air and local warmth suffice; talking and laughing are to be deprecated so long as the laryngeal muscles are irritable; fever may be subdued by the free use of oil to the skin. 2. In more severe cases an emetic of ipecacuan will relax the mucous membrane, and thus put an end to that distressing dry stage with which we who suffer from catarrh are so familiar. 3. To reduce the irritability of the laryngeal muscles opiates may be used, both locally and generally. 4. We must next endeavor to remove, as far as possible, every irritant from the sensitive spot; and to effect this, every breath which is inhaled should be of the temperature of the body, and moist as is the human breath. 5. Such symptoms as thirst and feverishness may be met by any drink the patient selects; it is certain that under such circumstances a child will neither select spirits, wine, or ale. 6. The occasional inhalation of chloroform may be adopted, if the patient when first seen is in very low condition."

ART. 42.—A Discussion of the Mechanical Theories which have been advanced to account for the origin of Pulmonary Emphysema.

By PHILIP J. HENSLEY, M. A., M. B.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

Mr. Hensley first considers three modes of explanation which have been adopted in accounting for the existence of emphysema. One offered by Laennec supposed that the lesion was caused by obstruction of the bronchial tubes, and by the action of the inspiratory muscles, which, being more powerful than the expiratory, would force in more air than expiration was able to eliminate, and thus the air would become imprisoned. The second explanation attributes emphysema to violent efforts in coughing and other expiratory acts, which are supposed to cause rupture of the air vesicles. A third view is that pulmonary emphysema is "a secondary mechanical lesion depending upon some condition of the respiratory apparatus which leads to partially diminished bulk of the pulmonary tissue, and consequently disturbs the balance of the air in inspiration." To all these views Mr. Hensley takes exception, and although he is not himself prepared to offer any very satisfactory explanation of the cause of emphysema, he explains some circumstances which he thinks may give rise to stretching of the lung tissue, and thus cause dilatation of the vesicles. In almost all cases emphysema is preceded by frequent attacks of bronchitis, which disease prevents the free passage of air into the bronchi; and Mr. Hensley thinks that if the bronchi leading to some parts of the lungs are impassably blocked up, the tension in inspiration will be borne unduly by neighboring portions, and thus dilatation of some of the vesicles be established. But he regards the stretching of the lung tissue only as an accessory to the lesion, and he believes that there is in the first instance a degenerative process in the tissues as well as an inflammatory condition of the bronchial mucous membrane, and that emphysema is caused, therefore, not only by mechanical, but also by vital causes.

ART. 43.—*Treatment of Acute Pneumonia.*

By M. S. JACCOUD, Professeur Agrégé à la Faculté de Médecine de Paris, &c.

(*Leçons de Clinique Médicale faites à l'Hôpital de la Charité, and Medical Times and Gazette, September 26.*)

With respect to the much-vexed question of venesection Professor Jaccoud observes that bleeding can only be advantageously prescribed under one of the three following conditions: (1) Intense dyspnoea and an elevated temperature; (2) mechanical disturbance of the pulmonary circulation, hyperæmia, and oedema; and (3) phenomena indicating congestion of the brain. Having fully discussed the above question, he next considers tartar emetic and digitalis, "two agents which are daily employed with advantage in pneumonia." With regard to the administration of tartar emetic, he observes that if the temperature does not exceed 103° F., if the pulse is only moderately rapid and strong without being hard, if there is no perceptible dyspnoea, and if there is comparatively little fever, tartar emetic is not required; if, on the other hand, the opposite conditions are present, if there is much febrile disturbance, and the patient suffers acutely, this remedy may be given with great benefit, and will often check the progress of the disease in from eighteen to twenty-four hours. On the first indication of a failure of the vital powers as indicated by the state of the pulse, &c., this mode of treatment must be suspended, and must be replaced by tonics—as, for example, quinine and perhaps a little wine. Our author lays great stress on the point that the tartar-emetic treatment should not be persisted in for a longer time than from forty-eight to sixty hours, and more than once repeats, that in deciding upon trying this mode of treatment, we must be influenced in no degree by the condition of the lung, but solely by the general state of the patient and the amount of febrile disturbance that is present. These remarks are equally applicable to digitalis, which is now largely employed in the French hospitals in the treatment of pneumonia. "It is a febrifuge and nothing more. It lowers the pulse and the temperature more rapidly than tartar emetic, and like the latter, induces, though in a less degree, a state of nausea. With digitalis, as with tartar emetic, you diminish and sometimes suppress the most painful element of the disease—namely, the fever." The phenomenon of desferescence is one of the most characteristic traits in the thermometric history of pneumonia, to which our author attaches very great importance. "You have left your patient," he observes, "with the temperature proper to the period of the disease, the fever being at its highest point. On returning, after a lapse of twelve hours, you find that the temperature has fallen nearly 3° (1.5° C.). From that moment the heat continues to diminish, with merely a very slight evening exacerbation, and in the course of thirty-six; or at most forty-eight hours, you have the normal temperature, a cessation of fever, and in short, the pneumonia has run its course." Our author subsequently points out that three phenomena of considerable importance take place simultaneously with the occurrence of desferescence. In the first place, the coagulated fibrinous exudation in the lungs begins to liquefy, and that organ begins to be again permeable by air. Secondly, the patient ceases to lose weight. Up to that period the fever causes an abnormal destruction of the tissues, and in a case observed by Wachsmuth more than 2 lbs. weight was lost in twenty-four hours, while in the twenty-four hours succeeding the beginning of desferescence, the loss of weight amounted to only one-fourteenth part of the loss experienced in the preceding twenty-four hours, and in the next twenty-four hours there was an augmentation of weight to the amount of about 6 ozs. Thirdly, and lastly, the urine presents important modifications.

Dr. Jaccoud denounces the universal treatment of pneumonia by alcohol as "a grave error;" he frankly admits that the experiments of MM. Perrin, Lallemand, and Durny are imperfect, since the elimination of the alcohol, which was supposed by them to be complete, is very partial, and he refers to the

authors quoted in the footnote¹ as having established the true state of the case. Dr. Jaccoud regards the therapeutical action of alcohol as being of a complex nature, and considers that this agent acts partly and in the first place as an immediate and temporary stimulant, and partly as a highly combustible element (according to Liebig's view) which tends to limit the increased waste of tissue caused by the febrile excitement. The following cautions regarding the use of alcohol are well deserving of our best attention:—

"Even in cases in which this medicine is in all respects indicated, it must be administered in carefully regulated doses. If you give it too largely, you will induce intoxication, and that the more readily from the weak state of the patient. If you continue its administration in too large doses, or for too long a time, you may induce a special form of asphyxia, for you impregnate the organism with an extremely combustible matter, of which only a portion is eliminated, while the remainder is burnt by the oxygen in the blood. The absorption of this gas, moreover, falls below the normal limit, in consequence of the disease; and thus there are two coincident conditions which tend to diminish the total quantity of the oxygen. The danger arises, not from the organism burning too much of the combustible material, but from the greatly increased consumption of oxygen which the combustion of our medicine necessitates. The oxygen will soon become insufficient for the due carrying on of the interstitial exchange which constitutes *la respiration à distance*, the aeration of the blood will become more and more imperfect, and asphyxia will at length result. These dangers, which have been foreseen by physiology, have been demonstrated by clinical observation."—pp. 76, 77.

The quantities of alcohol which he prescribes daily are very small as compared with Todd's mode of treatment, being from two to three ounces. His views regarding blistering are much the same as we entertain in this country. Blisters promote the absorption of the exudation as it begins to liquefy, and are of undoubted use in the case of feeble patients whose organic functions are discharged in too torpid a manner; but their application should be restricted to the period of deservescence.

"If the disease is normal in its course, regular in its different stages, and moderate in so far as its symptoms are concerned, for God's sake (*pour Dieu!*) leave the case alone, and do not disturb it by your blind and untimely intervention."

ART. 44.—*On the Expectoration in Fibrinous Pneumonia.*

By Dr. ADOLF BOHME.

(*Deutsche Klinik*, Nos. 22, 23, 25, 1868. *Gazette Hebdomadaire*, No. 34, 1868.)

In this article the author carefully investigates the various characters of the expectoration in fibrinous pneumonia, with regard to its chemical and anatomical constitution and its semeiological value. Dr. Böhme alludes to the chemical and histological analysis of Höfle, Leubuscher, Beale, and others; studies like Chomel, Bouillaud, and Skoda, the conditions in which the expectoration may be absent; and relying upon very complete cases, traces the modifications undergone by the expectorated material in the various periods of pneumonia. The different causes of the coloration of the expectoration are carefully studied. The following are some of the author's conclusions on the prognostic value of the differences in the coloration, consistency, and constitution of the expectorated material.

The absence of expectoration has no very important signification, although its retention in the lungs may favor extension of the inflammation. Absorption of the exudation is not rendered more difficult, since in cases of normal expectoration a great part of the expectoration remains in the lungs, and is

¹ Strauch, "*De Demonstratione Spiritus Vini in Corpus ingesti.*" (Dorpati. 1862) E. Baudot, *Union Médicale*, 1863. Sohulinius, "*Untersuchungen über die Vertheilung des Weingeistes im thierischen Organismus.*" (*Archiv der Heilkunde*, 2, 1866.)

not coughed up. Children and lunatics swallow the expectorated material, while patients suffering from pleuro-pneumonia endeavor to avoid the pain caused by the expectoration. The default in expectoration, however, is sometimes due to the patient's debility, as may be generally observed shortly before death. With regard to coloration, a green tint possesses a constant importance. Green or yellow expectoration, in the absence of jaundice, is a bad sign. A clearer succeeding to a darker tint indicates the commencement of resolution; contrary signs lead one to think of an extension of the inflammation. The quality of the expectoration is of great value. Its viscosity generally corresponds to the intensity of the inflammation. Serous or purulent expectoration like the prune juice, and brown expectoration of chronic pneumonia, always supplies a very doubtful prognosis. The amount of epithelium with vibratile cilia and of black pigment is unimportant. The presence of fibrinous coagula is also an almost indifferent sign. Many cases of pneumonia recover, although no fibrinous expectoration has been observed, whilst this material is often coughed up in fatal cases, and in instances of tuberculous pneumonia. When small yellowish-gray pigment exists in the expectoration (generally in cases of tuberculous pneumonia), it may be concluded that a cavity has been formed. The author, however, has sometimes seen these detritus in the stage of absorption.

Treatment seems to have a marked influence upon the consistency and coloration of expectorated material. It is modified more rapidly according to the greater activity of the system of treatment. Thus bleeding exercises a remarkable influence; directly it has been performed the expectoration loses its viscosity with surprising rapidity, and becomes more abundant, though the fever persists. The viscosity sometimes reappears, but in the majority of cases the expectoration remains fluid. Its color becomes clearer, and remains in this condition as long as there is no further extension of the inflammation. An extensive application of leeches acts in the same manner, but less vigorously. Digitalis produces changes in the expectoration, which is the more interesting to notice since in cardiac disease expectoration may often be observed, the rosy color of which is altogether analogous to that of the material expectorated in cases of pneumonia.

ART. 45.—*Treatment of Pneumonia.*

By JOHN ADDINGTON SYMONDS, M.D., F.R.C.S.E., Vice-President of the British Medical Association.

(*British Medical Journal*, June 13.)

Full and frequently repeated doses of bicarbonate of potass and spirit of nitric ether, with antimonial wine or ipecacuanha, in combination with poultices or blisters, are Dr. Symonds's first remedies. A serious illustration of an untimely opiate suddenly causing a fatal relapse, or rather a fatal arrest of the resolution, occurred to Dr. Symonds a few years ago, in the case of a gentleman whose pleuro-pneumonia was subsiding with free expectoration of muco-purulent matter. From coughing, or some other exertion, which probably caused a partial extension of pleurisy, he suffered an attack of pain, for which he helped himself to so heavy a dose of laudanum as to induce serious narcotism. The narcotism passed off, but the expectoration could not be recalled; and the patient died of his intolerance of pain, or, rather, of his rashness in quelling it.

ART. 46.—*Treatment of Hæmoptysis by Ergot of Rye.*

By HORACE DOBELL, M.D., Senior Physician to the Royal Hospital for Diseases of the Chest, &c.

(*British Medical Journal*, June 27.)

In spite of the fashionable outcry against complicated prescriptions, Dr. Dobell ventures to give the following as the most efficacious, and, as it seems to

him, the most rational, combination of remedies for a case of profuse tubercular pulmonary hemorrhage:—

R.—Ext. ergotæ liq. ʒij (to contract the vessels); tincturæ digitalis, ʒij (to steady the heart); acidi gallici, ʒj (to clot the blood); magn. sulphatis, ʒvj (to relieve congestion); acidi sulphurici diluti, ʒj (to assist the rest); infusi rosæ acidi, ad ʒviii (to make a mixture). A sixth part every three hours till hemorrhage is arrested.

In any given case, either of the ingredients may be omitted, if the symptoms indicate that it is not required, or that it has already done its duty.

ART. 47.—*Case of Recovery from Gangrene of the Lungs.*

By Dr. ZIERL.

(*Bayr. ärzt. Intell.-Bl.* 7, 1868. *Schmidt's Jahrbücher*, No. 6, 1868.)

Dr. Zierl, on the evening of the 1st of June, was called to a man thirty-six years of age, both of whose forearms were supposed to have been fractured four weeks previously through a fall. The patient was found breathing with very great difficulty, and suffering from constant cough without expectoration, and strong fever, great debility, much thirst, and a total loss of appetite. There was dulness on percussion over the lower lobe of the left lung, and no vesicular murmur on auscultation. The patient had commenced to cough fourteen days before, and the attacks rapidly increased in severity. Both arms were confined in bandages. During the night the dyspnoea and coughing were relieved, and an expectoration of a yellowish-gray and fetid material suddenly came on. The patient went on well, although the fetor of his breath and expectoration was very offensive to those about him; the vesicular murmur could now be heard in the lower part of the left lung. On June 21 the man was ordered to inhale the vapor of turpentine, and whilst this treatment was continued from week to week all the symptoms of the disease were removed; the expectoration gradually lost its fetid odor, and took on first the character of pus, and subsequently that of mucus. At the end of three months the cure was complete, and the man able to do work.

Dr. Zierl feels convinced that the focus of the gangrene was an apoplectic infarction, which must have been the result of the injury received a month before.

ART. 48.—*Further Experiments on the Use of the Alkaline Hypophosphites in Consumption.*

By RICHARD PAYNE COTTON, M.D., F.R.C.P., Senior Physician to the Hospital for Consumption, Brompton.

(*Medical Times and Gazette*, November 14, 1868.)

Some time back Dr. Cotton published in detail a series of observations upon the action of the hypophosphites of lime and soda in tubercular diseases of the lungs (*Lancet*, April 25 and May 2, 1863), and came to the conclusion that these substances were nothing more than neutral salts, suited, just as many other neutral salts are, to certain cases of phthisis in which there is a complication of acid dyspepsia, and that they had not, as alleged, any claim to specific action. Finding, however, that they are still regarded by certain medical practitioners as remedies of great value, and that they are still advertised "for the prevention and cure of consumption," he considered it right to give them another trial. Of twelve hospital cases in which they were administered four improved, and the rest derived no benefit. Of the four improved cases, each one, without exception, continued to improve, and in the same ratio, after the hypophosphite had been changed for carbonate of soda. Of the eight unimproved cases, one gradually became worse, and left the hospital without affording the opportunity for any experimental change of medicine. In four other remedies were equally unsuccessful with the hypophosphite, whilst in three there was a manifest im-

provement in every respect after the hypophosphite had given place to steel and quinine.

In each of these cases the hypophosphite was given in ten-grain doses, in water sweetened with a little syrup, three times a day.

The following are the legitimate conclusions at which Dr. Cotton has arrived:

1. That the alkaline hypophosphites have no claim whatever to a specific action upon phthisis.
2. That the good they may sometimes effect is altogether due to their alkaline character, and is equally shared by the alkaline carbonates.
3. That, except in cases requiring alkaline treatment, their employment is absolutely harmful, by excluding the use of positive and appropriate tonics.

ART. 49.—On the Nature and Treatment of Pulmonary Consumption as exemplified in Private Practice.

By CHARLES J. B. WILLIAMS, M. D., F. R. S., Consulting Physician to the Hospital for Consumption at Brompton; and CHARLES THEODORE WILLIAMS, M. B. Oxon., Assistant Physician to the same Hospital.

(*The Lancet*, August 15.)

The following is a brief general view of the treatment of consumption which Dr. C. J. B. Williams has commonly adopted: "As we have been led to conclude that consumption is essentially a disease of degeneration and decay, so it may be inferred, Dr. Williams says, that the treatment for the most part should be of a sustaining and invigorating character. Not only the most nutritious food, aided by a judicious use of stimulants and of medicinal tonics, but pure air, with such varied and moderate exercise in it as the strength will bear, and the enlivening influence of bright sunshine and agreeable scenery and cheerful society, are among the means best suited to restore the defective functions and structures of frames prone to decay.

Dr. Williams apprehends that most practitioners in this country are agreed in considering that consumption should be generally treated on a tonic and sustaining plan; and that the nourishment and strength of the system should be supported by varied tonics and cod-liver oil, as well as by the most nutritive articles of diet. But when the disease is ushered in with symptoms of acute bronchitis or pneumonia, with its attendant fever and scanty disordered secretions, it is obvious that such treatment is wholly unsuited for the occasion; and that remedies of the mild antiphlogistic kind, such as salines, with or without antimony, blisters, and cataplasms, and sometimes even moderate leeching or cupping, will give most relief, and will prepare the patient for the safe administration of the sustaining class of remedies. In former years in this country (as still in many places abroad) the antiphlogistic and starving plan was carried on too long and too far; but it appears to Dr. Williams that there is now a tendency too much to the opposite extreme, so that consumption is treated too exclusively with tonics, stimulants, and full diet. He quite admits that this is the better extreme of the two; and it may fairly be stated that the sooner, and the more constantly, patients can be treated on this plan, the better. But in case of active inflammation, continued heat of skin, hard racking cough (dry or with viscid and tinged expectoration), much pain or soreness of the chest or side, it answers well to withhold or withdraw the stronger stimulants and tonics, and for a time—it may be a few days only—to substitute cooling and soothing remedies, with moist epithems or counter-irritants on the chest, and, more rarely, local depletion. But this discipline, which is exceptional, should as soon as possible be replaced by what may be called the regular treatment by cod-liver oil and tonics, and a more generous diet. The transition need not be abrupt. So far as regards cod-liver oil, and the mild acid tonics, the change may be made long before the inflammatory complication has subsided. A dose of these may be given after the morning and perhaps after the midday meal, whilst still the saline is taken in the evening and night, and whilst blisters or other counter-irritants are in full operation.

So soon as the nocturnal heat of skin subsides, and the cough becomes less

urgent and the urine more free, the salines may be replaced by a mere cough linctus, if that be needed; the counter-irritation moderated, and the tonic, given with the oil, gradually strengthened by the addition of small doses of salicine, quinine, or iron. These two last tonics are of great use where they are well borne, as their influence in strengthening the muscular system and in improving the condition of the blood is greater than that of any other drug; but their use requires much discretion and watchfulness, for they often increase the lingering or inter-current inflammations, with their attendant pain, constriction, cough, and viscid expectoration, and not unfrequently they derange the functions of the stomach and bowels. It therefore often happens, where the patient cannot be seen frequently, that it is safer to be content with a milder tonic—such as calumba, cascarrilla, or chiretta—which may be continued for weeks and months together in conjunction with the oil, than to give those that are more powerful, but which by occasional disturbances may prevent the continuance of the remedy.

But the great remedy, more essential and more effectual than any other, is the cod-liver oil; and we may well bestow a little consideration on the mode of using it to the best advantage.

It is now pretty generally admitted by the profession that the pure, pale oil, simply extracted from the fresh, healthy livers of the fish, is that most suitable for the majority of patients, as being less unpalatable and at least as efficacious as the impure kinds.

The following is a brief summary of Dr. Williams's opinions and experience on the mode of operation of the oil, and on the best methods of administering it:—

Cod-liver oil, when taken into the system in sufficient quantities, and for a sufficient length of time, acts as a nutrient, not only adding to the fat of the body, but also promoting the healthy growth of other tissues, and in some way, as an alterative, counteracting the morbid tendency to the proliferation of the decaying cells of pus, tubercle, and kindred cacoplastic and aplastic matters.

That its efficacy depends much on its being absorbed freely into the blood, and through the circulation pervading all parts of the body, and thus reaching to the very seat of morbid deposits and formations.

That the more fluid part of the cod-liver oil surpasses all other oils and fats in the facility with which it forms emulsions, which are tolerated by the stomach and readily absorbed into the blood, without causing the nausea and bilious derangement that commonly result from an excess of fat food. This peculiarity may depend on the biliary and other matters contained in the oil, which in other instances of disease is found to act beneficially on the liver and other secreting organs.

That the best time for the administration of the oil is immediately after, or, to those who prefer it, at or before, a solid meal, with the constituents of which the oil becomes so intimately blended that it forms a part of the chymous mass, and is less likely to rise by eructation than when the oil is taken into an empty stomach. From this chymous mass, the oil being absorbed through the lacteals with the chyle, is less apt to disorder the liver than if absorbed through the veins of an empty stomach.

That as the use of the oil should be continued for a long time—perhaps for months, or even years—it is of great importance to conciliate both the palate and the stomach by giving it in a vehicle which may agreeably disguise its flavor and strengthen the stomach to bear it. For this purpose an aromatic bitter, such as the compound infusion of orange-peel, acidulated with a mineral acid, both to help to cover the taste of the oil and also to suit the stomach, which should be duly supplied with acid during digestion, generally answers well. Syrup may be added according to the taste of the patient; or, still better, some bitter tincture, such as calumba, cascarrilla, or quinine, in every case in which it is desirable to improve appetite and tone. In cases of peculiar weakness of stomach, with tendency to retching or nausea, strychnia, in a dose of from $\frac{1}{2}$ to $\frac{1}{4}$ of a grain, proves a most valuable adjunct to the vehicle. By its means Dr. Williams frequently overcomes the fastidiousness of stomach arising from debility, hysteria, or indulgence in alcoholic liquors.

Salicine is another efficacious alternative of the same kind. Either of these, although a powerful tonic, has none of the heating properties of quinine or iron. When the strong bitter taste is objected to, a pill containing extract of hop or chamomile, or salicine, or quinine, may be taken after or before the oil and its vehicle.

The bulk of the whole dose of oil and vehicle should be small, so that it may be swallowed at a single draught; therefore the vehicle should not exceed a tablespoonful, with, at first, a teaspoonful of oil, to be gradually increased to a tablespoonful. The dose of oil should rarely exceed a tablespoonful twice or thrice daily; when a larger amount is taken at a time, generally either it deranges the stomach or liver, or some of it passes unabsorbed by the bowels.

The acid may be varied according to circumstances. The nitric generally suits best in inflammatory cases, and those attended with much lithic deposit in the urine; but its tendency to injure the teeth is an objection to its long continuance. The sulphuric is more eligible where there is liability to hæmoptysis, profuse sweats, or diarrhoea. But in most cases, and for long continuance, Dr. Williams has found reason to prefer the diluted phosphoric acid, which may be termed the most physiological of the acids, tending to derange the chemistry of the body less than the others.

With some individuals the oil agrees well, and so much improves their digestive powers, that they require few or no restrictions in diet; but this is not the case with the majority. The richness of the oil does prove more or less a trial, sooner or later, to most persons; and to diminish this trial as much as possible, it obviously becomes proper to omit or reduce all other rich and greasy articles of food. All pastry, fat meat, rich stuffing, and the like, should be avoided; and great moderation used in the use of butter, cream, and very sweet things. Even new milk in any quantity is not generally borne well during a course of oil; and many find malt liquor too heavy, increasing the tendency to bilious attacks. A plain nutritious diet of bread, fresh meat, poultry, game, with a fair proportion of vegetables, and a little fruit, and only a moderate quantity of liquid at the earlier meals, commonly agrees best, and facilitates the continued exhibition of the oil in doses sufficient to produce its salutary influence in the system.

In case of a bilious attack coming on, indicated by nausea, headache, furred tongue, offensive eructations, high-colored urine, and sometimes pain and tenderness of the right hypochondrium, it is necessary to suspend the oil, lighten the diet of the patient, and give blue pill or calomel with an aperient on alternate nights, and an effervescent saline two or three times during the day. A few days of this treatment will generally set the stomach and liver to rights, and the oil may be resumed, beginning with small doses as at first. In all cases during the use of the oil the bowels should be kept regular in action; and if this cannot be done by regularity of habit and diet, it should be effected by the use of a mild daily pill of rhubarb or aloes.

Such are the directions which have proved most effectual in the administration of a remedy which may truly be said to have so much altered the prospects of the consumptive as to give hope of cure in not a few, and of much prolonging life in by far the greater number. But to induce patients to follow these directions, and to overcome their aversion to a remedy which the prejudice of some represents as disgusting, and the experience of many may find trying to continue for so long—the practitioner will often find it necessary to use all his powers of argument and persuasion. The great plurality of patients are amenable to reason, and are willing to follow any advice that is given with confidence and clearness. To those who demur or rebel it is generally expedient to tell the plain truth—that they have a serious disease, pretty sure to increase, and sooner or later to destroy life, if left to itself; *but here is the remedy*—the only one worthy of the name, which if carefully and faithfully used may arrest and cure the disease, and is pretty sure to retard it and prolong life more than other known means. The proportion of recusants either from waywardness of temper, fastidiousness of taste, or from intolerance of stomach, altogether does not exceed five per cent.

Although Dr. Williams's long experience assigns to cod-liver oil a place far above all other remedies in the treatment of pulmonary consumption and its allied maladies, it has taught him to believe also in the limited efficacy of certain other agents, and it would not be fair to pass these over in this brief summary of treatment.

He sometimes uses a combination of iodide of potassium and nitric acid with a vegetable tonic in the rare cases in which cod-liver oil disagrees or cannot be taken, and he thinks that it is improved by the addition of a drachm or two of pure glycerine to each dose. Glycerine by itself is of little use, but it is valuable as a lubricant, and to sheathe the acrimony of mineral acids and other pungent medicines.

The hypophosphites of soda and lime, so strongly recommended by Dr. Churchill, of Paris, have in Dr. Williams's hands proved decidedly beneficial in certain cases. They have been tried by Drs. Quain and Cotton, at the Brompton Hospital, with only negative results; but having met with several patients who distinctly ascribed their improvement to Dr. Churchill's treatment, he has thought it right to try them himself, both as a substitute for the oil and in addition to it. In the former way the results have not been generally satisfactory: the hypophosphite does not disagree, but there is no marked improvement as under the oil; and when they have been doing well under the oil, the patients generally lose flesh and strength when the hypophosphite is substituted for it. On the other hand, it has happened in several cases that a patient has long been taking the oil, and, after having derived great benefit from it, halts in his improvement, or even loses ground, and then the addition of the hypophosphite has been followed by a marked change for the better; flesh and strength have been gained, and the chest symptoms have been more or less improved. In these cases Dr. Williams has merely added four or five grains of the hypophosphite to the vehicle in which the oil is given, always selecting the phosphoric as the acid, and generally substituting glycerine for the usual syrup. Such precautions are necessary, because the hypophosphites are very unstable in composition; the addition of nitric acid, or mere exposure of the solution to the air (if not guarded with glycerine or a good deal of syrup), being sufficient to convert them into inert phosphates. In Dr. Williams's mixture of the hypophosphite with phosphoric acid, he presumes the hypophosphorous acid is set free, and is the active agent in the compound. How it acts is quite uncertain. He cannot say that he agrees with Dr. Churchill's views on the subject, even if he understands them. These hypophosphites seem to increase the failing powers of respiration and circulation. Can this be by increasing the affinity of the blood for oxygen, so that it can attract it and maintain the blood-changes even under the increased difficulties and obstructions produced by disease?

Perhaps the efficacy of the sulphurous acid—Dr. Dewar's remedy for consumption—may depend on an influence not altogether unlike that of the hypophosphites. Dr. Williams's experience of the use of the spray of sulphurous acid is limited to phthisis, and as far as it has gone has not been very encouraging. But he has found the spray a most useful and agreeable remedy in various affections of the throat, whether diphtheritic or aphthous; and it has proved cleansing and soothing in some cases of foul ulceration of the throat, affecting both larynx and fauces, generally syphilitic in origin, and sometimes ending in pulmonary consumption.

Dr. Williams has generally found the use of inhaling instruments fatiguing and unnecessary. A quart jug of hot water, with a napkin from over the nose down to around the jug to confine the steam, is all that is needed. To the hot water is added the drug to be inhaled; and creasote or carbolic acid, iodine, chloroform, oil of turpentine, and juice or extract of hemlock, are the articles which he has found most beneficial. A few drops of one, or of several of these combined, being put into the hot water, the inhalation is practised through both mouth and nostrils without restraint or difficulty, and may be continued for five or ten minutes every night, and, if need be, repeated once or twice in the day. Although the chief operation of this medicated vapor is on the guttural and bronchial surface, yet a portion penetrates into the lungs, and is absorbed into the system; for iodine and oil of turpentine can be detected in

the urine within a few minutes of the inhalation being made. Still, although proving very serviceable in certain cases, Dr. Williams cannot rank inhalation higher than as a subordinate remedy in the treatment of consumption. He may add, that the practice of painting the chest with tincture of iodine every night, as a gentle counter-irritant, is not without a certain influence in the way of inhalation; for a portion of the iodine evaporates, and slightly impregnates the air around the patient, and this atmosphere of iodine may not be without its influence for good.

The sulphurous waters of the Pyrenees are highly recommended by the French physicians in the treatment of consumption; and a few of his patients, after wintering at Pau, have found some benefit from the waters of Eaux Bonnes and Canterets during the summer months. But in other cases, and these the greater number, more harm than good has resulted from their use. More or less excitement of the circulation and respiration is generally induced by the sulphur waters, and instead of inducing expectoration and subsequent relief to the cough and breathing, the critical improvement has not taken place, and the patients have come away weaker and more oppressed than they went. With all respect for our brethren across the channel, so far as regards their cleverness in diagnosis, Dr. Williams does not hesitate to say that they are far behind British practitioners in their skill and success in the treatment of disease in general, and of diseases of the chest in particular. The same remark applies pretty much to the German doctors and their water cures, whey cures, and grape cures. Except in a few instances with the water of Ems, Dr. Williams has hardly known any British pulmonary invalids derive any permanent benefit from these modes of treatment; but he quite admits that they are sometimes useful when the pulmonary disease is complicated with gout, or decided disorder of the liver and digestive organs.

Of far more importance in the treatment of consumption is change of air and climate. It is of the greatest consequence to the phthisical invalid that he should breathe as pure an air as possible, and that the influence of this pure air on the blood and on the body should be increased by such gentle and varied exercise in it as his strength and the condition of his organs will permit. This is the great object of our sending him to a warm climate in winter, and to a high and dry locality in the summer, that he may be as much as possible in the *open air*, with its exhilarating and vivifying accessories of light, purity, and freshness, without the chilling operation of cold and wet in the winter, and the enervating and exhausting influence of oppressive heat in the summer. In conclusion Dr. Williams trusts that he has proved, that powerless as medicine is in the overwhelming and rapid types of pulmonary consumption, it has yet considerable influence over the milder forms; and that *under careful treatment life may be prolonged for many years in comfort and usefulness, and in not very few cases the disease is so permanently arrested that it may be called CURED.*

ART. 50.—*Treatment of Phthisis.*

By JOHN ADDINGTON SYMONDS, M. D., F.R.S.E., Vice-President of the British Medical Association.

(*British Medical Journal*, June 13.)

The remedies Dr. Symonds has most relied upon next to cod-liver oil are these: 1, permanent counter-irritation; 2, a morning dose of two or three grains of quinine, often united with iron; 3, a night sedative for the cough; and 4, a nutritious and even generous diet, in which he is always anxious to include a large allowance of milk and eggs. In regard to the first of these, he prefers to every other form a small open blister below the clavicle. The inconvenience is very slight; and the small extent of the surface involved leaves plenty of room for sinapisms, or iodine, or turpentine, which may be required for meeting intercurrent attacks of partial pleurisy, or bronchitis, or pneumonia. Iodine is a very valuable application, except where there is a tendency to subacute irrita-

tion. The strong tincture is the most generally useful. But in some instances Dr. Symonds gives the preference to inunction, because one can use a sufficient quantity to make an iodized atmosphere for inhalation during the night. Thus, one can direct a lump of the ointment to be laid in one or both axillæ. To the second remedy, the morning dose of quinine, he attaches great importance, not as a tonic, but for the sake of its power in preventing the afternoon access of fever; that apyretic time of day is also a good time for a small quantity of iron. Generally drugs are to be avoided as much as possible in those hours of the day when the more important meals come in. Anodynes and expectorants, if needed, should be confined as much as possible to the evening and night. There are medicines, however, which, even in the day, do not mar the appetite. Some even may help it; such as the mineral acids, nux vomica, and other tonics. But there is one remedy to which Dr. Symonds especially invites the attention of his brethren, not only as an auxiliary to others, but even as making up for the want of cod-liver oil, when this cannot be digested. The substance is chlorate of potash. Dr. Symonds was led to use it first from one's knowledge of its command over sores of the mouth. This suggested to him that the salt might do something towards healing pulmonary sores. Also, he heard of its apparent efficacy in curing glandular ulceration. His experience of it over a period of more than six years has been such as to afford him increasing confidence in this substance as a promoter of the drying up of vomica. Even in cases in which cod-liver oil was duly taken, but in which, as will often happen, the patient, though holding his ground in flesh and strength, and suffering no extension of his disease, still gives no sign in cough, sputa, or auscultatory signs, of abatement of the ulceration; in such cases Dr. Symonds has been much gratified by the improvement ensuing on fifteen grain doses of the chlorate taken twice, or even three times a day. It may be dissolved in plain water or barley-water. In some cases, when cod-liver oil could not be swallowed or digested, the salt has been added to a sarsaparilla mixture. Before dismissing the oil, Dr. Symonds adds his testimony to that of others in regard to the importance of not admitting too readily the statement that the patient cannot take it. Perseverance and tact will generally overcome the difficulty. Minute doses may be smuggled into highly flavored emulsions; and the plan of combining a strong acid or bitter, first suggested by Dr. Williams, has enabled thousands to take the medicine. In extreme cases, Dr. Symonds has found that the stomach will digest the oleine, though it could not dispose of the pure oil. The stearine can be easily separated by congelation and filtering.

Dr. Dobell's suggestion of adding pancreatine to the oil, or to his fatty emulsion, is an ingenious application of our modern knowledge of physiological chemistry. Dr. Symonds has used both of these substances, and with apparently satisfactory results.

In some constitutions, independently of disgust for oil or fat, the practitioner is thwarted by a stubborn disposition to assimilate the oleaginous principle. In such cases, an abundant use of eggs and also of sugar is recommended as a succedaneum.

(C) CONCERNING THE CIRCULATORY SYSTEM.

ART. 51.—*On Disease of the Mitral Valve.*

By J. ANDREW, M. D.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

Dr. Andrew commences his paper by relating a case in which it would appear that a disease of the mitral valve was cured. The patient was a girl, aged nine, in whom the physical signs and some of the rational symptoms very clearly indicated mitral regurgitation, but after treatment for some months the physical and other signs began to improve, and eventually, but not until about three years from the date of her first attendance, the characteristic murmur disappeared, and she became quite well. The improvement was much greater than

in any other that Dr. Andrew has ever observed, but he has notes of several cases in which the progress made was so considerable that he hopes the results in the present case may be equally favorable. In considering the question of the possibility of recovering from mitral disease, it is necessary to distinguish between the several forms of lesion which give rise to regurgitation, for some of these appear to be remediable; but of mitral constriction Dr. Andrew says nothing, believing it to be all but a hopeless affection. Incompetence, however, depends upon causes which are sometimes removable. In rheumatic fever, for instance, it may happen that only the surface of the valve is inflamed, and the murmur may disappear, and no trace of the disease will be left; but in other cases the substance of the valve is inflamed, and the murmur is developed more slowly, and the disease is far more permanent. Supposing that mitral disease is remediable in certain cases, Dr. Andrew suggests that the curative measures should have for their object to diminish the sum total of the blood in the body; to maintain the nutrition of the heart and its muscular power, and to diminish the frequency and energy of the heart's action. The first object is promoted by prescribing a somewhat restricted diet; the second by the employment of some preparation of iron, preferably the tincture of the perchloride, or quinine; and the third by the avoidance of all excitement, and by the use of digitalis.

ART. 52.—*Persistence of the Isthmus Aortæ; Death from Rupture of the Aorta.*

By Dr. DEGEN.

(*Archiv f. Klinische Medicin*, iii. 6. *Schmidt's Jahrbücher*, No. 7, 1868.)

The subject of this report was a female of the age of twenty-eight years, who died suddenly after an unusual exertion. She had always been weak and anæmic, but had never suffered from any severe illness. The autopsy revealed the following appearances:—

Pericardium distended with blood; excentric hypertrophy of left ventricle; rigidity and incompetency of aortic valves; the aorta immediately above the valves torn obliquely along one-half of its circumference, external membrane with the exception of a few small openings, intact, the internal membranes from the seat of the rent to the arch of the aorta extensively detached from the outer layers; arch of aorta not much dilated; ductus Botalli completely obstructed. Between this last and the left subclavian artery the aorta was suddenly contracted to the size of a crow's quill; the coats of the vessel at this part were much thickened so as to form a fibrous ring; immediately below this, the artery was found dilated to a spindle-shaped sac, about three inches in length; this became again contracted, and passed into an aorta, which remained somewhat reduced in size. The abdominal aorta was of the size of a normal iliac artery, corresponding to the arch of the aorta; near to the contracted portion of the artery was a slight bending of the vertebral column towards the right side.

ART. 53.—*On a New Sign of Aortic Incompetency.*

By Dr. MAREY.

(*Gazette des Hôpitaux*, No. 113, 1868.)

Dr. Marey, at a recent meeting of the Société de Biologie, called the attention of his colleagues to a new sign of aortic incompetency. "Without doubt," he stated, "incompetency of the sigmoid valves of the aorta is one of those affections the diagnosis of which is most certain. The diastolic souffle at the origin of the aorta, and the vibrating and bounding pulse are apparently sufficient for its diagnosis. Still certain aneurisms of the aorta produce at once similar auscultatory signs, and impress upon the pulse the same character." M. Marey has indeed convinced himself by post-mortem examinations, that in a great number of cases in which aneurism is accompanied by these signs, and in which

during life a complication of aortic incompetency is suspected, aneurism is in reality the only existing lesion. But the signs which characterize aneurism of the aorta are not always very precise, when, for instance, the tumor is small and deeply seated, and when there is but a slight difference between the pulse of the two radial arteries. If in a case of this kind one finds with a vibratile and bounding pulse, merely the signs connected with the existence of a simple or double souffle at the base of the heart, confusion is inevitable. It is in cases of this kind that the following new sign proposed by M. Marey, may afford great assistance:—

In experiments previously made with M. Chaveau upon the physiological movements of the heart, M. Marey also attempted to produce valvular lesions artificially, in order to see whether the physical lines presented by the human subject would be also presented under these conditions. In aortic incompetency, for instance, he was curious to know whether the violence of the pulse existed as a consequence of the valvular lesion itself, or whether it succeeded some ulterior modification of the force of the ventricle. He recognized that the former was the true hypothesis, and that the violent arterial pulse instantaneously succeeded rupture of the valves. But he also observed that the ventricular circulation underwent a very singular modification. Immediately after its systole, the ventricle, instead of being gradually filled with venous blood at a feeble pressure, was distended rapidly, and in a jerking manner, by blood from the aorta, and at a strong pressure. M. Marey then conceived the idea, that if the pulsation of the heart could be registered in man with sufficient precision, that an indication of this rapid repletion of the ventricle could be found in a graphical reproduction of the shock, and that this would be an important stage of aortic incompetency.

M. Marey has since had opportunities for collecting, by means of his apparatus for registering the cardiac pulsations, traces of the heart in patients suffering from incompetency of the aortic valves. These tracings present clearly that character, the existence of which he had been led by his theory to anticipate; that is to say, with incompetency of the sigmoid valves of the aorta, the tracings of the cardiac pulsations, instead of presenting an almost horizontal line during the repose of the ventricle, as in the normal condition, present at this moment a rapid ascent, showing that the pressure is very rapidly elevated in consequence of the reflux of blood from the aorta.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 54.—*On Hysterical Vomiting.*

By HYDE SALTER, M.D., F.R.S.

(*The Lancet*, July 4 and 11.)

Dr. Salter narrates three cases of hysterical vomiting in which he employed every remedy that he could think of to allay the irritability of the stomach, but without any but the most doubtful and evanescent effect. He gave the patients all kinds of sedatives—opium in various forms, hyoscyamus, belladonna, conium, hydrocyanic acid; he tried creasote, bismuth, oxalate of cerium; valerian, ammonia, ether, assafoetida; shower-bath, iron, quinine—in fact, he exhausted all our resources, both in the treatment of the symptom and of the essential morbid state—and all in vain. Dr. Salter does not say that all treatment in such cases is necessarily inoperative, but that in order to be operative it must appeal to the state of the nervous system, and that it will only control the sickness in as far as it controls the hysteria. There is one event, however, which, if it could be brought to bear upon either of these cases, would, he believes, at once stop the sickness, and that is the induction of maternity. When the subjects of such symptoms marry, all vomiting ceases; or rather the particular kind of vomiting they have suffered from is exchanged for another and more temporary and tractable kind of sickness—a very wholesome and justifiable form of homœopathy, a rational and intelligible form of "*similia similibus*."

ART. 55.—*On Ulcer of the Stomach.*

By THOMAS INMAN, M.D., Lond. Physician to the Royal Infirmary.

(Liverpool Medical and Surgical Reports, October.)

Amongst the women who present themselves for admission into the wards of the Liverpool Infirmary, a large proportion suffer from ulcer of the stomach. Amongst the male applicants very few indeed have this affection; the proportions are ten of the first to one of the last. The individuals are for the most part young, their ages varying from about twenty to thirty-five. In appearance they are often healthy; and the doctor sees with surprise that good-looking women can be suffering sufficiently to seek for a bed within the walls of a hospital.

The symptoms of the disease, the author writes, are readily recognized. They may be summed up thus: There is habitual indigestion, a pain increased by all food, and persisting during the whole time the stomach is full. This pain is severe in direct proportion to the food taken; meat, and such fluids as wine and spirits, aggravate it to its highest pitch. There is also much suffering when the stomach is distended by flatus. Habitual painful dyspepsia, aggravated by a meat diet, is almost pathognomonic of ulcer of the stomach. Such accidents as water-brash, jaundice, hæmatemesis, melæna, vomiting, and gastralgia occasionally happen, but they form an unimportant item in the diagnosis.

The first treatment for ulcer in the stomach is to keep the organ as small as possible. The quantity of food given at any one time must be very limited, *i. e.*, about three ounces should be the maximum.

Next, we must reduce the power of the gastric juice to dissolve the stomach to a minimum; and this can only be effected by a total abstinence from all solid animal diet.

Practically, we carry these indications out by restricting our patients to a teacupful of bread and milk every three hours.

The necessity for food must be diminished to a minimum—all exercise and exertion must be forbidden, and the patient confined to bed. This is the routine practice followed in Dr. Inman's wards, and he sees no reason to alter it. After many years of close observation, he is convinced that all medicines, including alcoholic stimulants, are prejudicial; white bismuth is the sole exception; but the cases in which it has seemed to do good do not amount to one in twenty. All aperients do harm, and mercurials are especially baneful. If the bowels require relief, "enemata" are the proper remedies.

ART. 56.—*Treatment of Fermentation in the Stomach.*

By SAMUEL FENWICK, M.D., M.R.C.P.

(Morbid States of the Stomach and Duodenum.)

"In cases of fermentation," Dr. Fenwick says, "the diet should be carefully regulated. Tea, coffee, milk, arrowroot, rice and similar fluids, so often forced upon the patient during a 'bilious attack,' should be forbidden; and iced water, soda water, Seltzer water, and beef-tea should be substituted.

"As regards remedies, I have generally prescribed creasote in doses of one drop, combined with magnesia; but if there be much subacute inflammation of the mucous membrane, the hyposulphite of soda will be found more useful. For some time after the attack has subsided, vegetable tonics in combination with acids or alkalies are required."

ART. 57.—*Diarrhœa and its Treatment at the London Hospitals.**(Medical Times and Gazette, August 1.)*

The course of treatment ordinarily pursued at St. Bartholomew's is to give a dose of the *haustus aromaticus* of the Hospital Pharmacopœia, which consists of half a drachm of aromatic confection in an ounce and a half of cinnamon water. Should, however, the bowels have been in a lax state for some length of time, a few doses are given at bedtime on successive nights of a mixture of gray powder and Dover's powder in equal proportions, from five to ten grains of this compound being the ordinary dose. Should the motions be lumpy, a dose of castor oil (half an ounce), with five or ten minims of Battley's liquor opii sedativus, is frequently prescribed.

The ordinary prescription at the Middlesex Hospital is the *mistura hæmatoxyli* of the Hospital Pharmacopœia. This consists of extract of hæmatoxylin sixty grains; tincture of catechu two drachms; caraway water and boiling water, of each five drachms; to be taken every four hours. Sometimes five or ten minims of laudanum are added to each dose. Chalk mixture, castor oil and laudanum, and sulphuric acid and opium are sometimes given, but not as a rule. All patients are further directed to go to bed if possible, and to restrict themselves to milk as a beverage.

At St. Thomas's Hospital, between July 4th and 18th, 112 patients laboring under diarrhœa presented themselves at the hospital, and twenty-four pints of diarrhœa mixture were given away by the porter in single doses. A considerable proportion of the patients were children, among whom the disorder has been most common and most fatal. Diarrhœa in children Dr. Gervis always treats with decoction of logwood combined with lime-water. Dr. Barnes, on the other hand, gives kino, catechu, or krameria, instead of lime-water, along with the decoction of logwood, when there is no vomiting. The casual cases are seen by Mr. Whitfield, the resident medical officer, who ordinarily gives a dose of the hospital diarrhœa mixture, consisting of tincture of rhubarb half a drachm, tincture of opium ten minims, aromatic spirit of ammonia one drachm, and peppermint-water an ounce and a half, combined with a couple of grains of calomel. This is followed, if necessary, by the so-called "brown mixture," which is also used in the wards to arrest diarrhœa; it consists essentially of forty grains of compound chalk powder with opium in water. Occasionally, when the diarrhœa is bad, and there is vomiting associated with it, Mr. Whitfield orders five or ten grains of carbonate of soda with twenty minims of chlorodyne. Sometimes a mild aperient with an opiate is prescribed, and children are directed to receive lime-water or iced water regularly.

At Charing-cross Hospital a large number of people have presented themselves, both by day and by night. For casual patients the hall-porter is provided with a simple astringent mixture consisting essentially of rhubarb and chalk mixture. This compound, indeed, constitutes the basis of the treatment of diarrhœa at this hospital. Dr. Julius Pollock ordinarily prescribes it when there appears to be any irritant material left in the bowels, and when the tongue is foul and coated. When, however, the flux has lasted for some time, he generally gives dilute sulphuric acid, with tincture of krameria, opium, and cinnamon water. When there is much abdominal pain, he prescribes mustard and linseed poultices or hot fomentations to the belly, and in severe cases insists on the importance of perfect rest and quiet. Dr. Alexander Silver also prescribes rhubarb and chalk mixture, varying the proportions according to the character of the stools and the length of time the disease has lasted. If very recent, an ounce or an ounce and a half of rhubarb mixture with half an ounce of *mistura cretæ* is ordered immediately, to be followed up by smaller doses; if the disease has lasted longer, the quantity of chalk mixture is increased, and the rhubarb diminished. Should the stools have become slimy and there be much griping, dilute sulphuric acid and tincture of opium, ten or fifteen drops of each in peppermint water, are ordered. It is rare these cases are seen at the very commencement; if, however, they present themselves sufficiently early,

castor oil and laudanum are ordered, whilst for children a few grains of hydragrym cum cretâ, combined with a grain or so of compound ipecacuan powder, is found to yield the most satisfactory results. The liquor ferri perchloridi, ten or twelve minims to an ounce of water, is sometimes used in the case of weakly children. It not unfrequently happens that the purgation has followed the use of a laxative or cathartic taken for the purpose of removing uncomfortable feelings in the bowels. When such is the case, Dr. Silver usually prescribes the ordinary lead and opium pill of the British Pharmacopœia.

The usual treatment at the London Hospital has been, when the tongue was foul or at the outset of diarrhœa, to give castor oil and laudanum, and enjoin rest in bed, with milk or farinaceous diet. But later on, or when the tongue was clean, aromatic sulphuric acid, with logwood decoction, chloric ether, and pægoric; or dilute sulphuric acid, with sulphate of magnesia or manganese; or an effervescing saline, and in two or three cases bromide of potassium. A few cases had chalk mixture. To prevent diarrhœa becoming prevalent in the wards, extra quantities of disinfectants have been used in the water-closets. There has not been any particular prevalence amongst the in-patients.

At King's College Hospital, cases of summer diarrhœa occurring among the out-patients have been treated by Dr. Morris Tonge with purgatives only, if they depend obviously on the presence of some irritating material in the bowel, castor oil and laudanum, or the mist. rhei ammoniata of the Hospital Pharmacopœia, being then given. In diarrhœa depending on other causes, and in cases of the first kind that persist after the matters irritating the bowel seem to have been completely removed by the aperient medicine, astringent mixtures are given, the most usual form being a mixture containing ten minims of aromatic spirits of ammonia, and from five to ten minims of tincture of opium, with half an ounce of chalk mixture and the same quantity of decoction of logwood, this dose being repeated at intervals varying according to the severity of the diarrhœa. The diarrhœa cases among the adult patients have not hitherto been very numerous, and the results of treatment have not been recorded.

Dr. Duffin treats most of his cases by means of castor oil, sometimes following up its exhibition by chalk mixture. A large number of casual cases have occurred, and have been mostly treated by a mixture containing castor oil, tragacanth, and oil of cinnamon, which may be considered the regular diarrhœa mixture of the hospital.

Dr. Broadbent's treatment in recent cases is castor oil or sulphate of magnesia, with ether, &c., followed by stimulant aromatic tonics; if the purging has been going on for a few days, he usually gives the sulphuric acid and opium mixture at once. Full directions as to diet are given in all cases, in young children he allows only sweetened barley-water for twelve to twenty-four hours, with a little brandy if necessary.

Dr. Lawson considers that the cases of summer diarrhœa which came under his notice were of two kinds: (1) Those induced by the direct action of the heat on the nervous system, diminishing the supply of nervous force to the mucous membrane, and so, in accordance with recent researches, enhancing the secretion; and (2), those produced by the use of impure water and the consumption of unripe or decomposing fruit. With this idea in view, he has been adopting two distinct lines of treatment for these cases. In the first form he has found the best results from the employment of salicine in from six-grain to eight-grain doses, once, twice, or in extreme cases, three times a day. In the second form, he has found most advantage from the tincture of perchloride of iron in doses of from ten to fifteen minims in bitter infusion three times a day. Chalk mixture, alone or in combination with catechu, has been of little service; but the salicine and tinctura ferri perchloridi produced the happiest results. The diarrhœa of children he has treated best by stopping the supply of milk and substituting beef-tea, and by administering brandy and the aromatic sulphuric acid in very minute doses.

At University College Hospital the mixture consisted essentially of dilute sulphuric acid in an aromatic water.

The ordinary treatment at Guy's is by astringents, the mixture containing

chalk, opium, and catechu. In some instances a little Dover's powder is prescribed in the julep ammoniac of the Hospital Pharmacopœia.

At Westminster the patients are prescribed for by the House Surgeons, the treatment varying; sometimes it consists of castor oil and opium, or chalk and opium. Dr. Basham's favorite prescription is sulphuric acid and laudanum, five minims of the former and three of the latter to an ounce of water. The compound rhubarb mixture is also frequently prescribed. It contains tincture of rhubarb and chalk. For children simple chalk mixture is mostly given.

ART. 58.—*Thermometrical Observations in Enteric Fever.*

By T. MACLAGAN, M. D.

(*Edinburgh Medical Journal*, August.)

The facts contained in this paper may be briefly summarized :—

1. The main feature in the thermometry of a typical case of enteric fever is a marked tendency to a morning fall and evening rise, which during defervescence is so great as to be characteristic of the disease.

2. The temperature during the continuance of the febrile state, however, does not enable us to distinguish enteric from other forms of fever.

3. In cases resembling, and apt to be mistaken for typhus, the evidence given by the thermometer is uncertain, and not equal in value to that got from other sources, especially the condition of the eyes.

4. In cases which throughout have been doubtful, it often gives during defervescence the only certain testimony as to the nature of the malady.

5. When head-symptoms are severe, and death is threatened by coma, the range of the temperature is generally high and irregular; but the more rapid onset of the head-symptoms in such cases does not permit of the thermometer giving the same premonitory indications which it often gives in typhus.

6. Irregularities in the range, absence of the morning fall, and still more a morning temperature which exceeds that of the evening, are indications of severity, and specially so when the range is at the same time high.

7. A fall of the morning temperature at the end of the second week, and a subsequent range during the third lower than that which existed during the second, are favorable signs.

8. The highest range occurs in cases which present marked head-symptoms.

9. Inflammatory affections springing up during the course of the disease have an elevating tendency.

10. Hemorrhages and diarrhoea have, when profuse, a lowering tendency.

11. A fall of the morning range is generally the first sign of commencing defervescence.

12. Elevation of the temperature is one of the earliest indications of a relapse.

ART. 59.—*Practical Observations on the Nature and Medical Treatment of Obstruction of the Bowels, and upon Constipation.*

By THOMAS HEAD, M. D.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Medico-Chirurgical Review*, October.)

Dr. Head draws a distinction between obstruction of the bowels, or an entire interruption of their ordinary functions, and constipation, which is a less serious affection. The former most commonly arises from intussusception, and from the lodgment of particles of undigested food in or near the ilio-cæcal valve, and more rarely from hernia and from malignant disease of the bowels; the latter has its seat almost exclusively in the large intestine. In one of the cases related, which was that of a child five months old, there was obstinate obstruction of the bowels, and the treatment adopted by Dr. Head was to inject warm oil and quicksilver into the bowels, and then to hold the child up by the legs

so as to allow the quicksilver to traverse the intestinal tube by gravitation. This practice, although novel, is described as being successful. In cases of malignant diseases nothing can be expected from treatment except the alleviation of the sufferings of the patient. Constipation of the bowels is a common affection, and it is almost incredible to what an extent the large intestines may be loaded with scybalous concretions without causing the patient any remarkable inconvenience. Married women, of middle age, have sometimes regarded the sense of fulness and weight of the abdomen as indicative of pregnancy. For the removal of such scybalous masses, the retention of which in the higher portions of the colon is likely sometimes to produce relaxation resembling diarrhoea, Dr. Head recommends small doses of blue pill and podophyllin, with a little acetate of lead, with about a quarter or a sixth of a grain of opium, and a drop of creasote at bedtime, for several successive nights, followed in the morning by a draught consisting of castor oil, liquor potassæ, a little chloroform, and a few drops of laudanum. Dr. Head notices that a laceration of the mucous membrane covering the sphincter ani is sometimes caused by the passage of hard scybalous feces and by the forcible expulsive actions of the abdominal and intestinal muscles.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 60.—*The Prognosis of Diabetes.*

By Professor OPPOLZER. Translated by ALFRED L. HASKINS, M.D.,
Boston, Mass.

(*New York Medical Journal*, October.)

The prognosis of diabetes is always very unfavorable. In the majority of cases it ends in death. It is only in those cases where the secretion of sugar is not very considerable, and where the general health is not perceptibly disturbed, that the life of the patient can be much prolonged by a proper regimen. If the quantity of sugar in the urine is considerable, the prognosis is hopeless. The patients succumb to marasmus. The prognosis is also very doubtful when the glycosuria is complicated with other diseases, as affections of the lungs and liver. If the patient is very much reduced and emaciated, or if tuberculosis of the lungs develops itself in diabetes, the prognosis is very unfavorable. If, together with albumen, sugar is also found in the urine, the prognosis is not less unfavorable. If sugar appears in the urine in consequence of cerebral lesions, it is only a temporary symptom. In such cases, however, the cerebral lesions are generally of a very critical nature, and may be the cause of death. There is here a double danger; danger from the wound itself, and also from the glycosuria. There are also instances known where, after concussions of the brain and blows upon the head, a persistent diabetes was developed, which occasioned death, although the wound in itself was very little dangerous, and attended by no bad symptoms.

None the less dangerous are the other complications of diabetes, broncho and pleuro-pneumonia, which generally terminate fatally. Gangrene of the lungs is of course very dangerous. The disappearance of the sugar in such complications should by no means be regarded as a favorable symptom. They cause for a time the disappearance of the sugar, and also the other symptoms of diabetes, but they produce no constant favorable influence upon the disease, for either the patient succumbs to the complicating disease, or, when this is overcome, the symptoms of diabetes return in undiminished force.

ART. 61.—*On the Physiology of Diabetes.*

By M. ED. CRUVEILHIER.

(*L'Union Médicale*, No. 59, 1868.)

The following are the concluding statements in a paper read before the Medico-Chirurgical Society of Paris by M. E. Cruveilhier:—

Diabetes may be due to increased action of the liver, or to a disturbance of nutrition, which disturbance is characterized by the non-oxidation of the sugar contained in the organism. The increased action of the liver occurs very seldom, disturbance of nutrition very frequently. Both these actions, however, are in dependence upon the same system, viz., the nervous.

Far from localizing the portion of the nervous system which exerts an action in this sense, the facts of traumatic diabetes show that disturbances of the whole central nervous system, and even of the visceral plexuses, may produce diabetes; a general concussion caused by an energetic movement, may produce diabetic polyuria and fatal diabetes.

Warned by these facts, the surgeon should not neglect to examine the urine whenever he has to perform an operation upon an individual suffering from some traumatic lesion, as for example a severe contused wound. The gravity of operations performed upon diabetic patients is well known. The operation is performed upon an organism, the nutrition of which is affected, and in which unassimilated products accumulate. We are therefore not surprised when the reaction necessary for the healing of wounds is not established, and when the tissues mortify and undergo the diabetic gangrene so fully investigated by M. Marchal de Calvi.

ART. 62.—*Diagnosis and Treatment of Diabetes Mellitus.*

By Professor OPPOLZER. Translated by ALFRED L. HASKINS, M.D.,
Boston, Mass.

(*New York Medical Journal*, October.)

The diagnosis of diabetes is not difficult, and as soon as we observe in a patient constant thirst, a continual feeling of dryness in the mouth, and later on polyuria, especially if there are no febrile symptoms present, it becomes our duty to examine the urine for sugar. The physician should endeavor to observe the disease at its very outset. Amblyopia and retinitis, as well as various ulcerations, caries, and necrosis, are wont sometimes to introduce the disease. All of these symptoms will be the better estimated if an early examination of the urine is not neglected. The early diagnosis is also of great value for its treatment. The urine ought especially to be examined during digestion, when the quantity of sugar is generally increased. Especial attention should be devoted to the condition of the respiratory organs and the state of the liver, and this organ should be subjected to a careful examination. The simple proof of sugar in the urine does not always justify the diagnosis of diabetes, as sugar has been found in the urine when a large amount has been eaten, and Blot has shown that pregnant women and patients suffering from gout very often pass urine containing sugar. An increase in the quantity of urine evacuated is also not a sufficient proof of diabetes. This is simply polyuria, or diabetes insipidus. This last disease, however, is very unfrequent, and is to be regarded as an affection of the vagus nerve. In this disease there is also great thirst, the specific gravity of the urine is not high, and there is neither grape nor muscle sugar present. When the last named sugar is present, the disease is called diabetes inorites. In diabetes insipidus the urine contains but a very small quantity of the urinary salts, and scarcely any urea; there is also a great dryness of the tissues and increased thirst, and, as a large amount of water is drunk, the ingredients of the urine are much diluted. Oppolzer has observed polyuria or diabetes insipidus among children who had the measles, and administered in such cases the fused nitrate of potash.

R.—Potassæ nitratis fusæ 3j.

Aquæ destillatæ Oj.

M. et sig. Drink in one day.

Tannin is also given. The French administer belladonna, carbonic acid water, and good food.

To combat diabetes mellitus, it is necessary above all things to regulate the diet and limit the patient to the least possible amount of amylaceous food.

The treatment is purely dietetic and empirical. The remedies recommended as specifics, upon this or that hypothesis, have proved themselves wholly without effect. In many cases abstinence from amylaceous food causes the secretion of sugar in the urine, and most of the other symptoms, to cease. In such cases the sugar is probably prepared only at the expense of the amylaceous food, and the elements of the tissues have not yet been employed in its formation. Still more important are those forms of diabetes in which, in spite of exclusive indulgence in animal food, the secretion of sugar in the urine still continues. In these cases the formation of sugar takes place at the expense of the nitrogenous elements of the tissues. On account of the abnormal change of these most important organic elements, those symptoms appear which in diabetes are of such sad significance: extreme emaciation, such as scarcely any other disease exhibits, great weakness, and complete prostration of the muscular strength. For this excessive expenditure of material, the greatest possible reparation must be rendered, and this can take place only by means of a supply from the nitrogenous substances. The longer the supply is able to compensate for the waste of the system, the longer will the patient survive. If the patient indulges in much amylaceous food, not only is the amount of sugar augmented, and many other troublesome symptoms increased, as secretion of urine and thirst, but also more power is demanded for the digestion of this food, and the supply of nitrogenous food, compensating for the organic elements which have been used, is limited.

The diet can exert no direct influence upon the disease itself; it is only able to prolong the life of the patient. Oppolzer sometimes employs benzoic acid in diabetes, although its good effects are questionable.

R.—Sodæ benzoatis, ℞j.

Sacchari albi, ʒj.

M. et ft. pulver. div. in partes æquales No. 6.

Sig. One powder every three hours.

If in the course of diabetes violent febrile symptoms appear, as they are not unfrequently wont to attend the complications which have been mentioned, quinine should be administered. The best remedies which we know for this disease are empirical. They are carbonic acid, the alkaline carbonates, and those mineral waters which contain these alkalies. Among these waters Carlsbad and Vichy take unquestionably the highest rank. Carlsbad decreases the secretion of sugar, but by no means produces a complete cessation of its abnormal production.

As already stated, animal food is the best diet for diabetic patients. It was regarded by Rollo as a very appropriate diet, and ham was recommended by him. But, in recommending this diet, the amylaceous food should not be wholly forbidden. Bread and dessert may be allowed in small quantities, as an exclusive diet of meat becomes very repulsive. Care should be given that the diet is composed principally of meat, but indeed when meat only is eaten, sugar is often found in the urine. Instead of common bread, a gluten bread has been tried in diabetes. This, together with meat, was given to diabetic patients, instead of the common flour bread. With some patients this substitute agreed very well. They were satisfied with it, and ate it freely. Oppolzer has, however, seen many patients to whom this bread was very repulsive, and they positively refused to take it, so that small quantities of common bread could not be denied them. Quite recently attempts have been made to bake a good and palatable bread for diabetic patients, which consists in part only of glue. This is given in small quantities, in cases where the common bread cannot be entirely dispensed with.

Care should be taken that there should be a variety in the use of animal food. If it is always given in the same form it becomes repulsive to the patient. The diet may consist of meat in different forms, roast meats, beefsteak, fish, ham, venison, and sausages of various kinds. Diabetic patients may also eat eggs prepared in different ways, and fatty substances, including fatty nuts and fruits. Of vegetables, cabbage, asparagus, lettuce, carrots, and all kinds of salads may be allowed. The food to be avoided is every kind of grain, potatoes, all amyla-

ceous legumes, all sweet fruits, and the juices of fruit. Milk is also an improper food, on account of the milk-sugar which it contains; however, small quantities of milk, and especially good rich cream, may be allowed.

Moderation is to be recommended to patients in satisfying the tormenting thirst from which they suffer in diabetes. As a drink, cold water, acidulated water, and lemonade, are good. Wine and brandy should be allowed only in small quantities. Thus given, it is useful to patients. When the pecuniary circumstances of the patient permit, the daily use of a half or whole bottle of red French wine, or any astringent wine, may be recommended. To poor patients, common red wine or a little brandy may be given. All sweet wines and beer are less useful. Tea and coffee, without sugar, but with some cream, good meat broths, with vegetables, gluten, and small quantities of rum, are allowed. When the thirst is great, carbonic acid water, soda and Seltzer water, are the best to be given. If these are not sufficient to satisfy the thirst, drinks made from hops or other bitter substances may be prepared. In the early stages of the disease a suitable diet generally succeeds in moderating the thirst. The patient is then better able to heed the advice to drink but little. Patients should also be advised to take their food slowly, and in small quantities. The desire for food as well as drink must be controlled.

In order to complete the hygienic measures, diabetic patients are advised to take regular exercise. Oppolzer advises patients to guard against taking cold, and to wear warm clothing. This should be especially recommended to patients who suffer from cold and have a dry skin.

Of the medicines which have been recommended and extolled in diabetes a few only have merited approval. Mialhe has very highly recommended the alkalies in diabetes. He grounds his opinion upon the supposed existence of acids in diabetes, which are neutralized by the alkalies. Too much, however, must not be expected from the use of the alkalies. A moderate use of the alkalies in such quantities as are found in the alkaline mineral waters, in order to aid digestion when this is much disturbed, may indeed be of use, and may aid the normal assimilation of the food. Oppolzer, however, has not observed the good effects of large doses of the alkalies. Mialhe prescribes them through several weeks.

Attempts should not be made to control or suppress the secretion of sugar, which appears in the urine after meals. If an attempt is made to suppress this physiological function, more harm than good may be done. The same may be said of the glycosuria of pregnant and lying-in women; but if disturbances of the respiration, diseases of the liver, or lesions of the brain are the cause of the glycosuria, attempts should be made to remove them. Lesions of the cerebro-spinal system have been very frequently regarded as the cause of diabetes. This theory has for its foundation experiments made upon animals, whereby diabetes, or rather glycosuria, was produced by means of artificial lesions of the cerebro-spinal system. If, in a case of diabetes, any disease of the cerebro-spinal system was found, this lesion was immediately regarded as the cause of the diabetes. It is, however, difficult to maintain this view in all cases.

In numerous cases which we find recorded in medical literature, various nervous complications are mentioned. As complications of diabetes, Oppolzer has observed many disturbances of the various nervous branches, as, paralysis of the facial nerve, neuralgia of the trigemini, etc. These neuralgias appear to depend upon an excess of urea in the system. In the treatment of these complications, regard must be had not only to the symptoms of the patient, but also to the patient himself, who in this disease is much reduced and weakened. Bleeding, although local, in such cases should be discountenanced, as the loss of blood generally reduces the patient still more. The benefit of the revulsives in some cases, however, is not to be denied. They should, therefore, be preferred to leeches and cups. In many cases of neuralgia, when it cannot otherwise be relieved, resort may be had to sinapisms and vesicants.

Oppolzer has observed in one case an obstinate sciatica, which came on in the course of diabetes. The patient was not able to sleep, and was in a condition of great excitement on account of the severe pain. The attacks attained

such a violence that they were more dangerous than the diabetes itself. Laudanum and quinine, which at first produced a temporary relief, proved later of no use. Resort was had to the revulsives, which occasioned much alleviation to the paroxysms of pain. The patient, who was still more reduced by the pain, again recovered, but the sugar in the urine remained the same in amount.

Of the other remedies which are recommended in diabetes, carbonate of ammonia deserves mention. This was highly recommended by Bouchardat, and before him by Neumann and Barlow. He gave a solution of one to two drachms in four to six ounces of water, which was the quantity to be used in a day. Oppolzer, however, has never been able to obtain any good results with this medicine.

The use of opium in diabetes has been much praised by several physicians. Since the experiments of Bernard, who demonstrated the influence of the irritation of the nerves upon diabetes, this remedy appears in several respects to have done good service in this disease. But Peter Frank and other older physicians had previously contended that opium was best adapted to lessen the secretion of urine. According to Oppolzer's experience, there are indeed some cases of diabetes in which the use of opium is beneficial; nevertheless, it is of use only in symptomatic treatment of diabetes. It has by no means proved itself a remedy for the disease. From a theoretical stand-point, Bernard could indeed speak in favor of opium; in the practice, however, his views have been by no means verified.

Many other medicines, for example yeast, have been recommended in diabetes, but they have not been approved in practice. It has been shown that, in advanced stages of diabetes, yeast is able to accomplish little if anything. Many astringent substances have been highly praised; experience, however, has not confirmed their beneficial effects, but has shown rather that they frequently do harm by disturbing digestion. Indeed, in diabetes, especially in the first stage, no drugs should be employed except in case of necessity. For the first stage of the disease, a suitable dietetic treatment is the best. In the second stage the treatment should be symptomatic. If the strength of the patient is much reduced, tonic medicines are indicated. Oppolzer employs iron and quinine. The doses and the preparation should be adapted to the individual, the digestion, and the special case, whatever it may be. Instead of quinine, a properly prepared wine of quinine may be given with advantage.

A frequent complication of diabetes is pneumonia. It arises quite often from a very insignificant accidental cause, as a slight exposure to cold. Although similar exposures may produce a pneumonia in a healthy person, yet in diabetes such pernicious causes more frequently give rise to pneumonia than is the case in healthy subjects. It may be said that in diabetes, generally, slight causes are sufficient to produce an inflammation of the lungs. Such a complication is, however, one of the greatest significance; for in diabetes the appearance of pneumonia, however slight it may be, is especially dangerous. In the majority of cases it terminates fatally. The course of pneumonia in diabetes is quite different from that of pneumonia in a healthy subject. The reaction is insufficient, and, as the vitality is diminished, the patient soon dies. Indeed, while the course of diabetes is generally chronic, it is soon changed when pneumonia appears, which leads rapidly to a fatal termination. The treatment is generally powerless, if the pneumonia be at all extensive. Therefore in the treatment of diabetes, such dangerous exposures should be avoided as much as possible. As experience shows, diabetic patients are very sensitive to the action of cold. Patients must therefore be protected as much as possible from such pernicious influences. This can be best accomplished by means of reasonable prophylactic measures. The patient must always dress warm, and be warned of the dangerous influence of cold. A warm climate is more tolerable to such patients than a cold climate, and if practicable such patients should be sent into a warm region. As experience shows, diabetic patients are quite well in a mild region near the sea, and when sent here improve in health, and increase in flesh and strength. A damp, misty climate is very unfavorable to diabetic patients. If pneumonia attacks a diabetic patient, the treatment is generally of no use. It runs a very rapid course, and the patient generally dies within twenty-four

hours. Neither local nor general bleeding should be resorted to, as the prostration of the system is very great. From other medicines, as ipecac., calomel, and the revulsives, very little is to be expected. Dangerous symptoms are to be treated as they appear, and patients must be strengthened by tonics in so far as they are able to tolerate them. Oppolzer has seen a case of diabetes which overcame a light attack of pneumonia. *Liquor ammoniæ* was given. Small doses of opium were also administered to allay the cough. Transpiration was promoted by suitable remedies. The patient lived two years and a half after recovery from the pneumonia, and died finally of tuberculosis.

In diabetes gangrene of the lungs not unfrequently appears in consequence of the pneumonia. Such a termination may be diagnosed from the fetidness of the sputa. They are blackish, rather adhesive, and very abundant. From medicines in this complication but little is to be expected. Tonics are mostly indicated.

Sometimes other peculiar complications appear in diabetes. Stomatitis and aphthæ, and oftentimes ulcers on the mucous membrane of the mouth, throat, tongue, gums, and lips, are observed. Extensive destruction of different parts also occurs. Oppolzer has observed an obstinate case of stomatitis in diabetes which defied all treatment. He employed as a wash for the mouth iodine in vain. Cauterization and scarification were also of no use, and there followed a very extensive gangrene of the mouth, gums, lips, and throat, in consequence of which the patient died. In other fresh and less obstinate cases, the above remedies and also washes of peppermint and camphor render good service. It is the presence of the primary disease which renders these complications so obstinate. Such inflammations of the mucous membrane in diabetes easily assume considerable dimensions and lead to gangrene, as the power of reaction and the vitality of the system are very low. When the mouth, therefore, is attacked with these affections, it will often be impossible by any therapeutical treatment to afford relief. Local treatment is of no avail so long as the primary disease remains. A proper prophylactic treatment is, however, of great utility. In fresh cases, where the system is not much weakened by the general disease, much good results from cleansing the mouth with the above-mentioned washes. The first duty is to oppose the general disease, and, if this endeavor is successful, the local treatment will be much more satisfactory.

As frequent complications in diabetes, the affections of the skin are to be mentioned. Erysipelatous inflammations are the most frequent. These inflammatory complications were often observed by the older physicians, and sometimes they assume a very serious character, and give rise to extensive necrosis and destruction of the skin and cellular tissue. The termination of inflammation in diabetes is very frequently gangrene, and such an event is always to be feared. As complications in diabetes, other affections of the skin are described by different authors. Marchal de Calvi has directed attention to spontaneous gangrene of the skin extending over a large surface. He also observed erythema of the skin. Fritz, Landouzy, and Wagner, have published similar observations. There are also numerous instances in which papular, squamous, and pustular eruptions were observed as complications of diabetes.

The gangrenous affections of the skin may be divided into three groups, the phlegmonous, the gangrenous, and the furunculous. There is much variety of opinion as to the influence which these complications have upon the primary disease. It has been asserted that these complications sometimes occasion an improvement in the general health, and a decrease in the secretion of sugar. Prout and others have observed the contrary. The observation of some physicians who have found sugar in the urine of patients suffering from carbuncles, or a number of boils, is of importance. In the treatment of these cutaneous complications in diabetes, the primary affection should not be neglected, and the principal treatment should be directed to this. The local treatment for the skin will vary according to the different lesions.

In the second stage of diabetes complications on the part of the digestive organs not unfrequently appear, while in the first stage perfect digestion is enjoyed. Not unfrequently in diabetes *cardialgia* shows itself. Oppolzer has observed such a case, in which, however, the digestion was not disturbed.

Gastric catarrh is also observed as a complication in the second stage of the disease. Oppolzer observed such a complication which made its appearance quite vehemently. The patient vomited very often, became much reduced in strength, and soon died. Oppolzer has observed also catarrh of the intestines in this stage. This hastens the fatal termination if astringents and opiates are not administered to quiet the diarrhoea. Especial attention should be given to the complications at their very commencement. In the first stage of the disease, dryness of the intestines is a prominent symptom, which is explained by the copious urinary discharges. Mild aperients should be given in such cases.

In the first stage of diabetes there are no disturbances of the liver. In the second stage, however, when the patient is much reduced and emaciated, an atrophied condition of this organ is not unfrequently observed. At autopsies, Oppolzer has often seen this organ atrophied, while in the beginning of the disease it was for some time enlarged.

Finally, the complications on the part of the urinary organs are to be mentioned. The kidneys are generally enlarged, or at least in a condition of hypertrophy, in consequence of the increased diuresis. The volume of the vessels and the Malpighian corpuscles are increased.

In many cases albuminuria is associated with diabetes, and the kidneys then undergo the metamorphosis which takes place in this disease. The cortical substance is then found in a condition of granular and fatty infiltration.

The bladder, in diabetes, is found considerably enlarged.

ART. 63.—*On Addison's Disease.*

By Professor JACCOUD.

(*Medical Times and Gazette*, October 16.)

Dr. Jaccoud has recently contributed an admirable article on this subject to one of the large French Medical dictionaries now in course of publication.¹ After a few remarks on the different names that he and others have suggested for this disease—as the “bronzed disease,” “suprarenal melasma,” “asthenic melanoderma,” and “suprarenal asthenia,”—he gives an abstract of 127 “observations on melanoderma accompanied with lesions of the suprarenal capsules,” arranged in a tabular form. The first case in his table was observed by Bright, and recorded in 1829, while his last case is one described by Pitman in 1864. As in each case not only the name of the observer and reference to the publication in which it is recorded, but also the sex and age of the patient, the duration of the illness, the antecedents and predominating symptoms independently of the melanoderma, the lesions of the capsules, and the other lesions independent of those of the capsules, are recorded in sufficient detail, it is obvious that the compilation of this table must have been the result of gigantic labor. He then gives similar tables of seventeen “observations on melanoderma without lesions of the suprarenal capsules,” and of fifty-eight “observations of lesions of the capsules without melanoderma.” Of the 202 cases included in these three tables the majority have been observed by English physicians, but America, France, Germany, Italy, Scandinavia, and Russia have likewise afforded a considerable number. Without entering into the well-known symptoms of this disease, we shall give, as briefly as possible, some of the numerical results which the author has deduced from his tables. In the 127 cases in the first table, persistent vomiting was noticed in 74; hence, excepting asthenia, which was universally present, this symptom occupies the first place in the pathological characteristics. Lumbo-abdominal pains constituted the second predominating feature, being present in 71 cases, their most common seat being the true lumbar region, where it was noticed in 34 cases. Next in order to

¹ “Bronzée (maladie) ou Maladie d'Addison.” In the “Nouveau Dictionnaire de Médecine et Chirurgie Pratiques.” Tome sixième. 1866. Pp. 676–773. Paris: Baillière. London: Baillière; and Williams and Norgate.

asthenia, vomiting, and lumbo-abdominal pains, there is great disturbance of the nervous system, showing itself in the varied forms of headache, convulsions, vertigo, delirium and coma. Transitory headaches were very common, and in 11 cases this symptom was persistent. Convulsions, which were usually confined to one or two of the limbs, and sometimes to only a special group of muscles—as, for instance, the facial muscles or the flexors of the forearm—were noticed in 19 cases. No connection can be established between the headache or the convulsions and the stage of the disease, but coma and delirium are chiefly associated with its later stages. Excluding certain doubtful cases, delirium was noticed in 10 and coma in 12 cases. Vertigo was only specially mentioned in 6 cases, but a tendency to fainting was very common; and frequent, well-marked syncope was observed in nine cases. Emaciation was only noticed in 32 cases, most of which were also phthisical. In the only 12 cases in which the blood was examined, leukæmia was observed in 8, but Dr. Jaccoud is inclined to refer this condition to organic changes coincident with the suprarenal lesions, and not to changes in the capsules themselves. In 10 of the 127 cases the asthenia was throughout the disease the only symptom associated with the discoloration of the skin. In 111 of the cases the discoloration of the skin was general and uniformly distributed, in 14 it was partial, and in 2 it occurred in patches; and it is worthy of notice that in all of these exceptional 16 cases the disease was complicated with other serious affections, as cancer or tubercle. The morbid brown coloring is not always limited to the skin; it is not unfrequently observed on the labial, buccal, and vaginal mucous membranes, and is very common in the lymphatic glands, the lungs, and the abdominal viscera. Brown patches have also been observed on the peritoneum. In one of the recorded cases the nails, and in another the teeth, assumed the color of the skin; and in one instance the hair, which was previously chestnut, became black.

There seems to be no law regarding the duration of the disease, but of the 94 cases in which it was noticed the range of the disease varied from six weeks to nine years. If, however, we reject cases which are complicated with other serious diseases, we have left 28 cases of the pure affection in which the duration is noted, and in more than two-thirds of these (20 in 28) the length of the disease ranged from six weeks to a year, in 2 cases it extended to two years, and in 6 it exceeded that term. Of the 127 cases, 79 were males and 48 females. The limits of age were 3 and 69 years. Between the ages 3 and 10 years 1 case is recorded; between 10 and 20 there were 24 cases; between 20 and 30, 30 cases; between 30 and 40, 31 cases; between 40 and 50, 18 cases; and between 50 and 60, 8 cases; after which age there were 3 cases.

From the second table of 17 cases of melanoderma without lesions of the suprarenal capsules, our author comes to the conclusion that the skin affection alone does not suffice to constitute the disease in question, but that other characteristic symptoms must be present. There is, he observes, nothing in the table which tends to disprove the conclusions drawn from the former one. In regard to the third table, comprising 58 cases in which there were lesions of the capsules without discoloration of the skin, he observes that in all but three there is an omission which singularly diminishes their value, nothing being recorded of any of the essential symptoms except the discoloration of the skin. He likewise brings forward other good reasons why no safe conclusions can be drawn from this table.

His remarks on treatment are brief but judicious. After noticing iron, bark, and tonic treatment generally, including some wine rich in alcohol—as, for example, Banyuls¹—iodide of potassium, and the bromides, he suggests that in the early stage blisters or cauteries may be applied over the region of the capsules; and, if these prove useless, and the characteristic torpor of the last stage appears, recourse may be had to the local application of electricity, with the view of exciting the flagging excitability of the central nervous system.

¹ Banyuls is a strong sweet wine obtained from the Department of the Eastern Pyrenees, it contains about 15 per cent. (by volume) of alcohol.

These views, however, appear to be merely hypothetical, and not to be based on experimental trial.

ART. 64.—*Observations on the Passage of certain Substances into the Urine in Healthy and Diseased States of the Kidneys.*

By DYCE DUCKWORTH, M. D.

(*St. Bartholomew's Hospital Reports*, vol. iii., and *British and Foreign Medico-Chirurgical Review*, October.)

Dr. Duckworth in this paper embodies a series of experiments conducted by him during the last two years. The first series of experiments refers to the excretion of some pigmentary and odorous substances by the healthy kidney, including the iodide of ethyl, iodide of potassium, bromide of potassium, indigo, aniline, logwood, turmeric, and santonine. It is known that most of these substances can be detected in the urine when the kidneys are healthy, but in opposition to assertions to the contrary, Dr. Duckworth shows that the pigments of indigo and logwood are excreted by the healthy kidneys. The second series of experiments was made upon patients suffering from disease of the kidneys, and the question was, to determine whether medicinal and odoriferous substances passed through the unhealthy as well as the healthy organs. The general opinion was that they did not; but Dr. Duckworth shows that this opinion is not altogether supported by facts. In his examinations he employed chiefly santonine, iodide of potassium, and turpentine; and he found that, in a certain number of cases, where the patients were suffering from diseased kidneys, the above-mentioned substances were found in the urine. Santonine, Dr. Duckworth believes, has not been previously employed in the manner described in his experiments; but he observes that it is easily exhibited, is the least unpleasant of all the substances he has used, and also yields its reaction in a very marked manner.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 65.—*On Lepra Alphas; the Lepra of the Greeks, or Common Leprosy.*

By ERASMUS WILSON, F. R. S.

(*Journal of Cutaneous Medicine*, October.)

Mr. Wilson draws the following conclusions from the observations contained in this highly interesting paper:—

1. That the more correct name for the disease is that which was assigned to it by the Greeks, namely, *lepra*.
2. That *lepra* or *lepra alphas* must be regarded as a *nutritive disorder of the skin* rather than inflammation.
3. That *lepra alphas* is the manifestation of a tendency or *diathesis*, which is often hereditary, and at other times acquired.
4. That *lepra alphas* is very closely allied pathologically with *tubercle-degeneration*, as manifested by phthisis.
5. And finally, that a *discutient treatment* externally, and *neurotonic treatment* internally, is that upon which we may rely most confidently for a cure.

ART. 66.—*Notes on Acne Rosacea.*

By H. S. PURDON, M.D., L.R.C.P., Edin., L.R.C.S.I., Physician Belfast Dispensary for Diseases of the Skin, Assistant Physician Belfast Charitable Infirmary and Institution, &c.

(*Medical Press and Circular*, June 10.)

To cure this disease permanently it is generally necessary to put the patient under a course of arsenic, which may be commenced as soon as the tongue is

clean and the liver in proper working order. The preparation that Dr. Purdon usually prescribes is the liquor sodæ arseniatis, given in doses of ten drops thrice daily after food. In some cases where the patients are what is commonly called "bilious," it is necessary to order taraxacum, and the following is a good form for its administration; it also acts as a diuretic:—

R.—Decoct. scoparii, ad ℥viiij.

Spt. etheri nitrosi, ℥ij.

Succi taraxaci ℥j.

Sig.—A tablespoonful three times in the day.

For flatulence, a common complaint amongst these patients, the efficacy of the compound tincture of cardamom is well known, or the following, if the appetite is impaired and depression of spirits complained of:—

R.—Tinct. valerian. ammoniat. ℥iss.

Quiniæ sulphat. gr. xx.

Sig.—A teaspoonful three times a day, in a wineglassful of water.

The nitro-hydrochloric acid foot-bath is also a valuable agent.

In the treatment of acne rosacea by external applications, the hypochloride of sulphur ointment, one drachm to the ounce, is a very valuable application, and stands first on the list in importance, being superior to the iodide of sulphur. The following ointment Dr. Purdon has used in several cases with the best results:—

R.—Hydrargyri iodi virid. gr. x.

Sulphuris, ℥j.

Adeps, ℥j.

A little oil of bergamot or bitter almonds may be added to cover the smell of the sulphur. Individuals the subject of acne after exposure to excess of heat, as over a large fire, are frequently troubled by an increase of inflammation of an acute nature in the affected part. In such cases the constant application of the "glycerole of starch" for a few days is of benefit, and in place of soap the following may be used: Take of glycerine, by weight, five parts, yolk of egg four parts, mix; this application, which has lately been recommended in the *Philadelphia Journal of Pharmacy*, is of a very soothing nature, and is of the consistence of honey, a little of which can be applied before exposure to cold, heat, &c.

In inveterate cases, painting the part affected with the solution of the terchloride of antimony for a few seconds, and afterwards applying a sponge soaked in a solution of carbonate of soda, is of benefit, especially when the integument is much thickened; a poultice of rice flour being applied at night, or Dr. Ross's method of treatment may be adopted instead, which consists in puncturing each separate tubercle, and inserting an ordinary capillary vaccination tube, containing a drop or two of nitric acid. This excites inflammation of the follicles, and thus occasions obliteration. Dr. Purdon can strongly recommend this method of treatment, as he has found it successful in many cases where ointments and lotions had proved useless.

It is a common custom, Dr. Purdon says, to prescribe the bichloride of mercury in the form of a lotion in the treatment of acne. Now, if this remedy be persevered in for any length of time, it occasions a scaliness and hardness of the cuticle which is very annoying. Borax has quite the contrary effect; it is equally efficacious, and can be prescribed in conjunction with glycerine and tincture of benzoin.

ART. 67.—*Phosphorus in Cutaneous Disease.*

(*Journal of Cutaneous Medicine*, October.)

Phosphorus, as a renovator of nerve-tissue and nerve force, has considerable claim to be considered a possibly useful remedy for a class of diseases which are due to debility and consequently to exhaustion of nerve power. To this class belong all the nutritive affections of the skin, and many of those of congestion.

Since our attention was first drawn to the virtues of phosphorus, we have employed it in lupus, in general alopecia, and in several cases of nerve irritability and nerve exhaustion, and with the most encouraging results. We have adopted as our formulæ one grain to four ounces of cod-liver oil, a teaspoonful a dose, directly after meals, three times a day; and one grain dissolved in a drachm and a half of suet, and divided into thirty pills; one three times a day at similar periods; and we have increased the strength of each formula, on repetition, to one grain and a half of phosphorus. We have met with no deterring symptoms, and where the remedy did not seem to be doing good, it was, in the opposite sense, negative. A delicate young lady afflicted with scrofulous lupus, mentioned the production of a feeling of warmth in her abdomen, and also in the feet and hands, which passed away in a few days; but this is the only immediate effect we have heretofore observed.

But the best results of the remedy were shown in the case of a young officer, sadly exhausted by residence in India and syphilitic neuralgia, the neuralgic attacks being accompanied with intense night sweats. The neuralgia and night sweats always yielded to the iodide of potassium, but the potash weakened him, and he was left prostrate for two or three weeks afterwards. On a late occasion he complained of a recurrence of his night sweats, with great debility and weariness; he was unable in the evening to take his place at the dinner-table, and was obliged instead to go to bed. Although hot and perspiring in bed, his skin could not bear the chill of the open window; and his own account of himself was that his head ached, his back felt as if it were broken, and his legs refused to carry him. Under these circumstances, and seeing that he had no decided neuralgia, although complaining of three spots on the head, which were a little painful, but very tender to the touch, we hesitated to repeat the iodide of potassium, and prescribed the phosphorus pills, one to be taken three times a day, with a mixture of cinchona and sulphuric acid twice daily. The new remedy produced no apparent effect for a week, but after that time it acted like a charm. He felt generally strengthened; his previous sense of weariness disappeared, the night sweats ceased, he lost his susceptibility to taking cold, the tenderness of the scalp subsided, and he experienced an universal feeling of invigoration. He discovered also that the medicine, without knowing what it was, was in its action aphrodisiac. Comparing its influence on his health with the iodide of potassium, he remarked that he felt stronger after the use of the phosphorus; while the iodide, although it removed the immediate symptoms equally effectually, left him prostrate and weak.

ART. 68.—*Collodion Flexile in Herpes Zoster.*

(*The Practitioner*, August.)

The value of this application does not seem so well known as it should be. A great many persons now use it in the treatment of erysipelas, in which, of course, it acts by excluding the air. But it is really of quite as much importance to effect this purpose thoroughly in shingles. The intolerable burning, which gives so much misery in severe cases, may be greatly reduced thereby; for if the painting with collodion be steadily applied from an early period, not only is the extent of vesication much limited, but, of course, all chance of exposure of a raw surface to the air is cut off. Very probably the ethereal solution of nitrate of silver would effect the same purpose.

ART. 69.—*On Molluscum, Rupia Simplex, Acute Eczema, or Eczema Rubrum.*

By WILLIAM R. BASHAM, M. D., Physician to the Westminster Hospital.

(*British Medical Journal*, October 10.)

Dr. Basham recently directed the attention of the students at Westminster Hospital to three cases, one of molluscum, the other of rupia simplex, the third

of eczema. Molluscum, he observed, was an affection of the skin not of very frequent occurrence, and from a popular belief of its contagious character, designated in the books as molluscum contagiosum. It is not, however, contagious, although it often happens that more than one individual in a family may exhibit the disorder. It appears, however, to arise more from the special character of the constitution, or structure of the sebaceous follicles, than from any agent capable of propagating it.

The treatment to be adopted in these cases is purely local. The tumors may be either enucleated, or a slight puncture made in the centre, the sebaceous matter squeezed out, and then touched with a stick of nitrate of silver, brought to a fine point. The caustic must not be too freely applied, as an unnecessary degree of irritation is excited, and more pain caused from the inflammation set up than is requisite for the eradication of the tumor.

The next case to which the attention of the students was directed, was a case of *rupia simplex*. It was in the person of a young woman, twenty-two or twenty-three years of age, having a worn and anxious expression of countenance, and whose recent history was that of poverty, want, and mental distress. *Rupia*, Dr. Basham observed, is a disease essentially of the ill-nourished and half-starved. Its characteristics in this case were well marked. Over the trunk of the body, but in less number than on the extremities, particularly the lower, were dispersed a number of dirty-looking patches or scabs, varying in size from a silver threepence to that of half-a-crown. The base of the scab or crust was surrounded by a margin of inflammatory redness. The crusts had a laminated appearance, and have been likened to the dirty ash-gray of an oyster-shell. When they fall off, the cuticle remains of a dusky red color for some time, and in bad cases often ulcerating. These scabs or crusts originate in a circumscribed spot of redness, slightly elevated, and painful to the touch. In the centre of this inflamed spot, at first was seen a minute vesicle, which rapidly enlarged by an irregular extension of its margin. Its color at first, as this enlargement takes place, was pearly or milky, but it rapidly became purulent and concreted, and formed, by successive exudations, the laminae of which the crust was composed. From the attrition of the clothes and dirt, this crust acquires the peculiar aspect which is the characteristic of this eruption. In one variety, the *rupia prominens*, the crusts acquire a cone-like shape; but excepting that the disease does not differ from the common form, *rupia simplex*, both are the offspring of indigence, intemperance, and dirt. As the causes which develop *rupia* are long and slow in operation, so it must be understood the means and remedies for its cure are equally dilatory, but not the less certain and effective.

The remedies in all such cases may be said to be embraced in the term nutrition, and all that aids nutrition, to which may be added cleanliness and personal comfort. There is no specific medicine for the treatment of *rupia*. Whatever remedies may be given should be those which minister to the nerve-force. It is thus found that a wholesome meat diet, porter or wine, as the case may need, accompanying it, is best aided by some of the preparations of cinchona and a mineral acid.

The next case was that of a man aged forty-two, a baker, which afforded a very good example and study of the characteristics of acute or inflammatory eczema. About a fortnight before admission he felt behind the ears a burning, tingling sensation, followed by an oozing of moisture, which increased the irritation considerably. In a day or two, the flexures of some of the joints, the armpits, and the elbow, became the seat of a diffused inflammatory redness, with a painful sense of burning; a number of small watery pimples pouring out a fluid which only increased the local irritation. The scalp became involved: and other patches, more diffused, appeared on the trunk, both before and behind, as well as on the thighs and in the hams, even down to the ankles. On admission, this was the extent and range of the disorder. The scalp was covered with a moist, half-dried exudation, matting the hairs together, and completely concealing their roots; the spaces behind the ear were red and moist, the skin looking highly inflamed; and minute vesicles could be seen in the more recent inflamed margin. The back of the neck was free, and the

eruption did not appear so marked on the back and loins as on the chest and abdomen. The pubes, inguinal spaces, inside and outside the thighs, seemed to display the eruption in its most angry form. Here the cuticle was deeply red, moist with oozing fluid, and distressing the patient by the continuous sense of tingling, itching, and burning. The eruption on the chest and upper part of the abdomen, as well as on the outer part of the thighs, was covered with the half-dried serous exudation, and looked like honey in color and consistence. The linen, whether of the bed or person of the patient, was sticky and stiff, and discolored with the moisture oozing from the inflamed skin. There was not much constitutional disturbance, not more than the extremely irritable surface might account for. The tongue was pale and slightly furred; the pulse was not accelerated; and there was no obvious error in any of the excretions. The urine perhaps contained an excess of uric acid and urates.

This form of skin-affection is thus shown to be an inflammation in irregular spaces of the derma, with the development of numerous minute vesicles, with excoriations and irritation of the surface, the vesicular fluid concreting into crusts, and, as the inflammation subsides, the skin desquamating in bran-like scales till the healthy surface is completely restored. This *branny* condition of the cuticle is particularly seen in the scalp in this case, and continues long after the surface of the trunk and extremities has returned to a clean and healthy state.

The causes of acute inflammatory eczema in many cases may be traced to irritation of the skin by some special irritant. Consequently, it is seen often in those who work in an atmosphere loaded with dust, or whose clothes may become saturated or charged with fine particles of the material with which they deal. Bakers, bricklayers, grocers, and millers are thus frequently the subject of these eczematous eruptions, either in local or in more general form. There must, however, be some constitutional predisposition to cutaneous disorder pre-existent, or it would be more frequently observed among the workpeople in the above trades.

The acute form of eczema, with proper management, especially such as is at command in a metropolitan hospital, is not of an obstinate character. Unlike the chronic form, its duration rarely exceeds from six to eight weeks.

The plan of treatment most suitable for these cases of acute eczema is the following. Cooling laxatives, effervescing salines, a simple non-stimulating diet, rest for a few days in bed, and the application of some soothing substance to allay the distressing irritation of the inflamed and excoriated skin. There are no specifics for this form of eczema. Arsenic is useless; it is useful in the chronic form. Alkalies are useful; but they should be given in a palatable form; and the carbonate of potash as an effervescent, with citric acid, may be given with advantage. The oxide of zinc and glycerine, slightly diluted and made of the consistency of cream, and painted over the inflamed skin with a feather or brush, conveys speedy relief. A warm or tepid, not a hot bath, should be given on alternate days. To remove the concremented mass from the scalp, linseed-meal poultices made with a small addition of liquor potassæ to the water, and kept in contact with the scalp night and day, changing the poultice every six or eight hours, effect this purpose; or water-dressing, with a sufficient quantity of liquor potassæ to the water to help its solvent action on the crust, may be substituted.

During the progress of the convalescence, tonics may be desirable. The patient whose case is here related was ordered quinine and iron. He took Donovan's solution for a few days; but he needed the tonic more, and the arsenic was discontinued. About the seventh week of his stay in the hospital, every part of the body, the seat of the severe eruption, except the scalp, had returned to perfectly clean and health appearance; so much so, that those who had seen the man on admission might with difficulty imagine that such fair clean skin could have been so recently disfigured. The scalp, however, was an exception to this complete restoration: here, even to the margin of the hair, was a branny state of the cuticle, a whitish scurfy peeling of the epidermis, implicating the root of the hairs, and requiring stimulating applications for its removal. Lotions of the nitrate of silver, of ten grains to the ounce, were

found sufficient; so that before he left the hospital, the tenth week from admission, this portion of the skin also presented the same favorable appearance as that of the trunk and extremities.

ART. 70.—*Treatment of Eczema.*

By W. H. AXFORD, M.B., Bridgewater.

(*British Medical Journal*, October 24.)

Ap[ro]pos of Dr. Basham's case of acute eczema given above, the following case, which is of interest as being apparently due to suppressed menstruation, shows the great benefit to be derived in such acute cases from lotions containing gallic acid.

M. A. B., aged 18, was admitted as an out-patient at the Bridgewater Infirmary on September 21st. She had generally been a healthy girl, and had always been regular until the last period, which she missed a fortnight ago. A few days ago a rash, consisting of very minute pimples, appeared, commencing at the upper part of the chest, and spreading rapidly to the arms, the whole front of the body, and upper part of the thighs. The rash was a bright scarlet, and exuded a watery fluid, especially on the left arm; in some parts this fluid had dried, forming yellowish scabs. The itching was intense. There were some signs of indigestion. She was ordered a mixture, containing bismuth and hydrocyanic acid, three times a day, and a lotion.

R.—Sodæ sesquicarbonatis ℥ij; glycerini ℥ss; aquæ ℥viij.—M. Fiat lotio sæpe applicanda.

Sept. 26th. Somewhat better; less itching; but still considerable exudation of watery fluid.

R.—Acidi gallici ℥j; glycerini ℥j; aquæ ℥viij.—M. Fiat lotio sæpe applicanda.

The mixture was ordered to be repeated.

Sept. 28th. Much better; the itching was much less; and there was not nearly so much exudation. No part had yet, however, healed.

She did not again come to the Infirmary until October 8d, when she appeared quite well, stating that the catamenia had appeared on September 29th, and the rash immediately began rapidly to disappear.

ART. 71.—*Cases of Psoriasis.*

Under the care of WALTER B. CHADLE, M. D., Assistant-Physician St. Mary's Hospital.

(*The Lancet*, October 17.)

The following cases illustrate very well three varieties of psoriasis, with their appropriate treatment, which in each instance was attended with a successful result.

CASE 1. *Acute general psoriasis.*—The patient was a robust-looking man of twenty-seven, a chimney-sweep by trade, who, with a rare regard for cleanliness, was in the habit of washing himself from head to foot every evening, after his day's work, in a strong solution of soda, for the purpose of thoroughly removing the soot. He was also a great beer drinker, and during the hot weather of June last had taken more than usual, sometimes as much as four or five quarts a day. About five months before he came to the hospital he first noticed the appearance of an eruption in a small patch, the size of a fourpenny-piece, which came on the right shin. It was scaly and perfectly dry, and not sore or tender in any way. This grew to the size of "the top of a teacup," and then the eruption made its appearance on the left leg, spread up the thighs, then to the arms, and lastly on the trunk. It was dry, scaly, red, and annular in form—as he expressed it, coming in "round rings, like the ring-worm."

When first seen (on June 11th, 1868) the only parts of the body free from eruption were the neck, chest, belly, and back of the hands. On sides of the

trunk and the arms, where the patches were tolerably distinct, their form was annular, and the rings in some cases two or three inches in diameter, the centre being occupied by healthy skin. On the legs the rings had coalesced into one uniform sheet, covering the greater part of the limb from the knees to the ankles. The eruption throughout was somewhat raised, of a bright-red color, and covered with large white scales, which were easily detached and soft, but not friable. There were no vesicles, nor papules, nor was the slightest sign of any exudation perceptible. No history of syphilis or hereditary tendency could be made out. He was ordered small doses of arsenic and iodide of potassium, and an ointment containing nitric oxide of mercury and creasote. When the man was seen again a week afterwards he was covered with eruption from head to foot, so that hardly a vestige of healthy skin could be perceived. The back of the hands, chest, and abdomen, which had been free before, were of a uniform scarlet color, and covered with scales, but perfectly dry and not tender. The scalp was filled with dry scurf, and the face red and rough. The gums and buccal mucous membrane were also very red, and on the latter there were superficial ulcerations along the line of the teeth. The skin felt excessively hot to the touch, and the man complained of a constant sensation of burning heat and itching. The temperature of the axilla was 100.4° ; the pulse 108, soft and full; the tongue much coated, and bright-red along the edges.

The patient was at once admitted into the hospital, remaining under Dr. Cheadle's care, by the kind permission of Dr. Handfield Jones. A warm bath was given every night; after which the body was sponged over, while still moist, with a weak lotion of nitric acid and glycerine. This greatly relieved the burning and irritation. Zinc and lead ointment was applied to the limbs; and small doses of carbonate and sulphate of magnesia, in quassia mixture, ordered to be taken three times a day; the bowels, which were very costive, having been previously freely opened by a compound jalap powder. In the course of four days the redness of the skin began to fade on the chest, the temperature went down to 99.5° , and the tongue became cleaner. The desquamation was very great, the bed being covered in the morning with scales shed during the night. On examining them with the microscope, no pus-globules could be discovered. The case progressed rapidly, the eruption disappearing from circular portions, leaving annular patches, with all the characteristics of psoriasis. In three weeks there were only a few irregular patches scattered about the arms, back of the neck, waist, and feet. As the eruption disappeared the skin resumed its former healthy appearance at once, without any of the thickening and soft waxy look so marked in the decline of eczema. This distinction, with the annular character of the eruption, its healing from the centre, and the absence of moisture, and of pus-globules, combined with the history of the case, seem decisive of its being an acute psoriasis.

The man became an out-patient at the end of three weeks, and when last seen, on the 20th of August, the skin was found perfectly clear, except on the chest, where were several well-marked circular patches of genuine chronic psoriasis.

CASE 2. *Non syphilitic psoriasis plantaris*.—This case is worthy of record, because it was one in which there was no suspicion of syphilitic taint or hereditary tendency; and also from the age of the patient, plantar psoriasis being of rare occurrence, except as one of the results of congenital syphilis in infants, or as a form of tertiary syphilis in adults. The patient was a girl of thirteen, of most respectable parents, and living in the country. The mother had three other children, all living, free from skin disease, and perfectly healthy. No affection of the kind was known to have existed in any of the family on either the father's or the mother's side. Eighteen months before coming to the hospital, in March, 1868, the girl noticed that her feet were hot and sore, which she attributed to chilblains. She described them as having been red, and having "dry bladders" on them, the skin peeling off; and that subsequently they were covered with white scales. They had been tender, cracked, and dry ever since. There had never been any exudation from the surface, nor any eruption on any other part of the body. She complained that the feet burned and ached very

much, especially after walking, and at times itched severely. When seen, the soles of the feet and the sides for an inch above were of a uniform red. The margin of redness was a well-defined line along the sides of the feet, the height of a low slipper, extending in front to a little above the base of the toes. The plantar surface was cracked and fissured transversely, sparsely covered with white scales, and perfectly dry. There was much less thickening of the cuticle than in ordinary cases of the disease. The palms of the hands and rest of the body were entirely free. Under arsenic, and an ointment of the nitric oxide of mercury and creasote, the feet gradually regained their natural condition. At the end of seven weeks the fissures had gone, and only a few scales and a faint red blush remained. The itching had entirely ceased, and the only inconvenience felt by the patient was a slight amount of aching and burning of the soles after walking. In the course of another month she was discharged perfectly well.

CASE 3. *Syphilitic psoriasis: impetigo of face: occurrence of nodes during treatment by iodide of potassium.*—J. P.—, a healthy-looking fellow, aged twenty-two, became an out-patient in March last. He had general psoriasis; the patches were irregular and ill-defined, brownish in color, somewhat tubercular, and the scales were small and scanty. He had had primary syphilis twelve months before. He was ordered five grains of iodide of potassium in infusion of quassia three times a day, and pitch ointment to the skin. At the end of a week the dose of iodide of potassium was increased to eight grains, which the patient continued to take for three weeks, by which time the psoriasis had almost entirely disappeared, but this was succeeded by some impetigo of the chin and lower part of the cheeks. The ointment was changed to a mild mercurial, and the iodide of potassium continued as before.

By the 30th April, seven weeks after he came under treatment, he was free from the skin disease; but a soft node, some two inches in length, appeared on the right shin. It was very tender, and had been so painful as to prevent sleep. The iodide of potassium was increased to ten grains, but the man did not attend the hospital again for a considerable time. When again seen, several days afterwards, he stated that the node had disappeared in a week or ten days, during which time he had continued to take the medicine.

The occurrence of nodes after an uninterrupted course, for seven weeks, of a drug which is supposed to be a specific in that form of syphilis, is an interesting fact in therapeutics.

ART. 72.—*Chronic Psoriasis.*

(*Bull. de Thérapeutique*, October 15.)

The following formula is much employed by MM. Hillairet and Lailler at the St. Louis, the patients at the same time using vapor baths:—

Fresh lard, fifty parts; sulphocyanide of mercury, half a part.

ART. 73.—*On the Synchronism of Variola and Vaccinia.*¹

By ROBERT PRINGLE, M.D.

(*British Medical Journal*, August 22.)

In bringing this subject before the association, the author pleaded as his excuse the fact of its having fallen to his lot to see many cases of what, in the absence of another and better term, he called the synchronism of variola and vaccinia. After describing the circumstances under which the cases were met with, and which he considered to be the cause of their numbers, Dr. Pringle drew the following as his conclusions from the long array of 110 cases, which he had tabulated as having occurred in 1865, and which he laid before the

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

meeting, viz.: 1. That vaccination may be successfully and beneficially performed at any time when variola is imminent, subsequent to the febrile and prior to the papular stage of that disease; and 2. That vaccination, where thus had recourse to, will reduce the rate of mortality from 40 or 50 per cent. to near $6\frac{1}{2}$ per cent., as shown by the cases he had tabulated. Dr. Pringle further pointed out that, in all the cases of this synchronism which he had personally inspected, at the various stages of both diseases, he could not, though he searched for it, detect any modification in either disease; and the only modification which he witnessed was, as said before, in the rate of mortality. The author also remarked that he had in the two years 1866-7 subsequent to that, viz., 1865, in which these cases were met with, seen several additional instances of this synchronism; and though he had hesitated to bring the subject before the profession, on the experience of a single year, yet, the two following tending only to substantiate his conclusions, he now felt he could do so, supported by the observations and cases of three years.

SECT. III.—FORENSIC MEDICINE.

ART. 74.—*On a Case of Death from the Introduction of Chyme into the Aerial Passages.*

By Dr. J. PARROT.

(*L'Union Médicale*, No. 91, 1868.)

Paul G—, born on March 14, 1868, of a syphilitic mother, was admitted into the *Hospice des Enfants Assistés*, and was there nourished by hand and carefully attended. It was brought under the notice of Dr. Parrot on several occasions in consequence of a general disorder characterized by pallor of the integument, flaccidity of the muscles, erythema on the buttocks, and a roughened skin. With the exception of some superficial cracks on the lips, no other local affection was observed.

On the 18th of May, at two o'clock in the morning, the infant was found dead in its cradle. Some milk had been given a short time before, but nothing had been observed in the infant's state that preindicated this event.

The autopsy was made twelve hours after death.

The heart was firm and conical; the auricles contained some coagulated blood; on the right side the clot was large and fibrinous only at its posterior part, where it was infiltrated with a lemon-colored serosity.

The lungs were of a pale gray color, dry, very crepitant, and the seat of a slight alveolar emphysema over nearly the whole of their extent. When examined externally they appeared very healthy, and the upper lobes were really healthy; the inferior lobes, however, were much softened over a great extent of their posterior regions. The parenchyma was of a brownish-gray color, and was mottled by dark and almost black spots, which were caused by the veins being filled with semi-coagulated blood. The prolonged contact of the air did not modify this tint. The tissue was manifestly softened, and was torn on the slightest traction; at some points it was reduced to a thick pulp, and exhaled a very penetrating sour odor, like that of matter contained in the stomach. The small adjacent bronchi were distended with a creamy material of a grayish-yellow color, in which was found a great number of cylindrical cells furnished with curved appendages and vibratile cilia, and also of oil globules, and vibrones animated by very rapid movements. The same bodies were found in the larger bronchi. The larynx and the trachea were not obstructed at any point.

The stomach, at the time of its removal, was extensively torn along its greater curvature, and a large cheesy mass floating in a creamy fluid was allowed to escape. This mass was very large; exhaled an intense butyric odor, and consisted of transparent gelatinous material, in which no trace of structure could be discovered. The fluid was made up of oil globules similar

to those found in the bronchi, of cells of cylindrical and pavement epithelium, some large spherical elements, nuclei, granular corpuscles, and vibriones.

In the gelatinous material were found some transparent débris of elements constituting the organic wall, and some true vascular formation.

The remaining abdominal viscera presented nothing worthy of notice.

The meninges at their most dependent parts were infiltrated with a small quantity of serosity. The cortical substance of the brain was of the color of clear café-au-lait, and the medullary substance was of a violet color. The consistence of the brain tissue was normal. Nothing especially worthy of mention was discovered on section, with the exception of some small white and opaque spots in the neighborhood of the ependyma of the lateral ventricles. These were formed of granular bodies resulting from the infiltration with molecules of fat of the cells of the neuroglia. The vessels in the region of the ventricles presented in their exterior a mass of fatty granulations, and also some spherical nuclei deprived of nucleoli, resembling lymph corpuscles.

Remarks.—The preceding particulars enable us to account for the mode of death of this infant, which at first seemed to be extraordinary.

The attention in this case is concentrated on the stomach and lungs, for from the present point of view the cerebral lesions are insignificant, and in fact similar to those found in the majority of infants who succumb shortly after birth, after having been subjected, as in the present instance, to alimentation insufficiently reparative.

Although extensively softened, the stomach presented no signs of inflammation; moreover the infant had never presented during life any symptom of disturbance of this organ. This lesion, therefore, was cadaveric, and cannot be considered as the cause of death. It is to the chest that we have to look for the causes of this child's succumbing, and this, according to Dr. Parrot, is what happened: during sleep regurgitation took place, which threw into the air-passages a certain quantity of chymous material. This being fluid, penetrated into the small bronchi, and determined death by suffocation.

The pulmonary ramollissement was the result of the digestion of the parenchyma by material passed from the stomach. The organoleptic and microscopical characters of the contents of the bronchi remove all doubt on this point. The localized destruction of certain parts only of the inferior lobes is due to the fact that the gastric fluid, when introduced into the air-passages, obeys after death the laws of gravity, and so gained the dependent parts, and then attacked the organic framework, where the bronchi were sufficiently small to be readily destroyed.

The following case, which occurred a short time after the preceding, presents some interest with regard to the action of gastric juice upon the pulmonary parenchyma.

The subject was a girl two years of age, who was attacked with croup and died suddenly.

The stomach was destroyed over nearly the whole extent of the greater curvature. The spleen was of a dark color. The diaphragm presented at its left side a perforation of the size of a franc-piece, through which some of the fluid from the stomach had passed into the corresponding pleural cavity. The base of the lung was softened; the pleura remained intact.

In this case the stomach, which at the time of death contained food mixed with gastric juice, subsequently underwent, together with the diaphragm and the lower part of the left lung, a post-mortem digestion. The organic destruction setting out from the stomach, extended continuously and concentrically to the adjacent organs, and it is only by the gradual propagation of this progress, involving the parts nearest to the stomach, that the lung in the present case was attacked.

In the former case, on the contrary, the gastric ramollissement was rapidly limited, and it was by a long detour that the contents of the stomach passed to the lung, which organ was attacked not at its base, but at its central region.

ART. 75.—*Two Cases of Opium-Poisoning.*

Under the care of Dr. RADCLIFFE, of the Westminster Hospital.

(*The Lancet*, September 5.)

The interest of the following cases lies in the employment of belladonna as an antidote to opium. The notes were furnished by Mr. C. T. Winckworth, the house-physician :—

Ellen H—, aged thirty-nine, was admitted Aug. 11th, at 10.38 A. M., having taken about three drachms of laudanum a quarter of an hour before. She was scarcely sensible. Skin very cold; pulse small and slightly increased in frequency; breathing shallow; pupils very much contracted, and fixed; was very sleepy, and said there was a mist before her eyes, and she could not see. Ordered an emetic of sulphate of zinc, after which she had strong coffee, and was walked about the ward.—2.30 P. M.: Turpentine and castor oil enema, mustard poultice to the pit of the stomach, and ten minims of tincture of belladonna every half hour. To continue taking strong coffee.—6.30 P. M.: Pupils moderately dilated, and acting slowly. The mixture repeated every hour and a half for five doses. Bowels open in the evening. Was frequently aroused during the night by the nurse.

Aug. 12th.—Skin is warm, and she perspires very freely; pupils act properly; tongue dry and furred; is thirsty; throat dry; no appetite; bowels open; pulse 72 and soft.—2 P. M.: Repeat the mixture with gentian every four hours.—6 P. M.: Throat very dry; numbness and sensation of swelling in the hands and forearms. Ordered to omit the mixture. To have half a drachm of sal volatile and the same quantity of spirits of ether every four hours.

13th.—Slept pretty well last night; tongue a little cleaner; less thirst and dryness of the throat; no appetite; bowels open; pulse 90, soft; still numbness in fingers and arms; pupils regular.

14th.—Convalescent.

Martha G—, aged sixty, was admitted August 11th, at 11.15 A. M., suffering from the effects produced by six pennyworth of laudanum, which she said was nearly equal to two tablespoonfuls; she subsequently told her attendants that she had taken it at 11.30 the previous evening. She was insensible, but could be aroused by shaking. Her skin was very cold; pupils contracted to a pin's point; pulse feeble; breathing very shallow, both chest and abdomen being almost immovable. Ordered an emetic of mustard and water, introduced by means of the stomach pump; and an enema of strong coffee. Was kept awake by being frequently shaken, and the sides of the chest flapped with cold cloths. 2 P. M.—Ordered an enema of turpentine and castor oil; a mustard poultice over the epigastric region; and ten minims of tincture of belladonna every half hour. To be kept awake by shaking, &c.

August 12th, 10 A. M.—Still very drowsy, but answers when spoken to. Skin warm; tongue dry and brown. She is thirsty; throat very dry. Bowels open once. Pulse 66, weak; breathing less shallow, and chest moves more freely; can see better than yesterday; slight headache; pupils slightly dilated after nineteen doses of belladonna. Repeat the mixture every two hours, with gentian. 9 P. M.—The mixture every four hours.

13th.—Tongue still coated; throat dry; no appetite; bowels not open; pulse 72, stronger; pupils act well. Says she feels much stronger and better.

14th.—Slept well last night. Skin warm; tongue moist and cleaner; throat less dry; she is not so thirsty; bowels open; appetite returned; no headache; pulse 72. Pupils regular, and act well. She is convalescent.

ART. 76.—*On Several Signs of Death supplied by the Ophthalmoscope.*

By M. BOUCHUT.

(*La Tribune Médicale*, No. 47, 1868.)

1. We are able either with the aid of the ophthalmoscope or by means of atropine to distinguish real from apparent death, and thus to guard against the danger of premature inhumations.

2. If death is but apparent, the cornea is translucent, the papilla of a rose red color, and the fundus of the eye red and furrowed by the arteries and veins of the retina.

3. After death we may observe with the ophthalmoscope that the transparent cornea is wrinkled, and like in appearance to a piece of moistened window-glass, which prevents us from seeing clearly the objects behind it.

4. At the very instant of death the choroid loses its red color, and becomes pale, nacreous, or gray like tarnished lead.

5. With its change of color after death the choroid acquires a pale tint similar to that of the papilla, so that the extremity of the optic nerve being no longer made apparent by the real fundus, becomes almost invisible.

6. Although, after death, the papilla of the optic nerve is no longer recognizable by its color, its place may still be indicated by the venous trunks which radiate from it as a common centre.

7. Death causes the central artery of the retina to disappear, by removing from it all blood that it contains.

8. In consequence of death the veins of the retina are contracted, or partly disappear, and the blood arrested in their interior presents more or less extensive interruptions, which hinder us from following the vessels along the whole of their intra-ocular course.

9. When the subject is in a state of apparent death, a solution of atropine placed between the lids always produces at the end of a quarter of an hour a great dilatation of the pupil.

10. When death is real, the solution of atropine produces no effect upon the pupil, so that the absence of dilatation of the iris after application of this agent ought to be considered as a certain sign of death.

ART. 77.—*Poisoning by the Oil of Bitter Almonds.*

Reported by Mr. W. B. SHORTS, House-Surgeon to the Royal South Hants Infirmary.

(*British Medical Journal*, August 15.)

The following case illustrates the efficacy of the rousing treatment, such as is recommended in poisoning by opium, in a case of poisoning by the oil of bitter almonds:—

G. G—, aged three, was brought to the infirmary, June 15th, suffering from the effects of a poisonous dose of the essential oil of bitter almonds, which had been incautiously left within reach of the child. The following were the symptoms: Foaming at the mouth, difficulty of breathing, pupils dilated and fixed, pulse scarcely perceptible, surface of body very cold, and the general condition inanimate. An emetic was administered at once, and the child placed under a powerful cold douche bath, the water being especially dashed over the head and spine. In a few moments she commenced kicking and screaming, but relapsed into the former condition as soon as the douche was suspended. The treatment was accordingly continued for more than half an hour. The child was then removed from the bath, and gently galvanized by the electro-magnetic current. She still remained in a very drowsy condition, but was kept perfectly awake by slapping and shaking her when necessary; and at the end of three hours appeared quite recovered and rather lively. She was brought to the infirmary again the next day, and was apparently little the worse for the poison, or the treatment she had undergone. According to the father's account, the child had swallowed near a tablespoonful of the essential oil.

ART. 78.—*Toxicological Action of Prussic Acid; Atropia as an Antidote.*

By M. PREYER.

(*The Practitioner*, August.)

M. W. Preyer has arrived at the following most important conclusions from a series of ingenious arguments and experiments. In comparatively moderate

but yet fatally poisonous doses, prussic acid acts by very suddenly and completely depriving the blood of its oxygen; the phenomena being only an exaggerated and intensified representation of what occurs when an animal is made to breathe unmixed hydrogen for some time. Supposing the poisoning to have been accomplished, then, by a comparatively moderate dose, resaturation of the blood with oxygen, if it can be quickly enough accomplished, will infallibly restore the animal to life. On the other hand, prussic acid, given in *very large* doses, paralyzes the heart, and is absolutely fatal. Those cases in which there is apnoea, and the heart is beating, remain open for treatment. M. Preyer was led to believe that the true physiological antidote for prussic acid was an agent which (without producing any other important poisonous effects) would paralyze the peripheral branches of the vagus in the lungs and in the heart; and, on the other hand, stimulate the central nervous apparatus of respiration in such a manner as to produce rapid respirations. He now makes the very important announcement, that sulphate of atropia acts precisely in this way, and he has demonstrated on rabbits and guinea-pigs, that the subcutaneous injection of a very small dose of this agent, if performed pretty quickly after the ingestion of the prussic acid, is an *unfailing antidote*. Apparently he would recommend the injection of quite small doses (1-75th grain?).

ART. 79.—*On the Mental Condition of Epileptics, and their Responsibility for Criminal Actions.*

By M. LEGRAND DU SAULLE.

(*Gazette des Hôpitaux*, No. 89 and 92, 1868.)

1. Attacks of epilepsy and epileptic vertigo react in a marked and easily recognizable manner upon the intellectual, moral, and emotional faculties.

2. The character and manners of epileptic subjects are fertile in strange anomalies, present very salient contrasts, and are characterized by sudden and unforeseen impulses.

3. Not all epileptics are mad. But in a great number of the subjects of this disease, called by Celsus *morbis sacer*, the harmony of the moral sentiments is broken, the character of the affections perverted, and the order of the sensations disturbed. Madness is indicated, but not necessarily acquired.

4. Marriage exercises an unfavorable influence upon the progress of epilepsy, and the disease may also be transmitted in this way.

5. Non-justifiable crime, when committed under the evident influence of an epileptic crisis, entails absolute irresponsibility.

6. If an epileptic commits an outrage when he is manifestly not suffering from a nervous attack, he is partially responsible; but ought to receive, after an examination of his mental condition, a much smaller punishment, and one proportioned in some way to the degree of moral resistance he is capable of exercising.

7. When a crime has been coolly calculated and carries its own explanation, the author is responsible, especially if the epileptic attacks are of rare occurrence, and have not yet interfered with the free play of the understanding.

8. When a crime altogether *unaccountable*, and entirely opposed to the antecedents of the accused, who has not been considered either as an epileptic or as a madman, happens to have been performed with extreme suddenness, it is necessary to make inquiries about the previous existence of nocturnal and unrecognized attacks of epilepsy.

9. The medical expert charged to observe the mental condition of an epileptic should depend upon the character and the progress of the delirious attacks, upon the physical and moral characters of the attacks, and upon the character of the acts performed during these attacks.

10. Civil documents proceeding from and consented to by epileptics, when free from any nervous crises, and from any mental disturbance, ought most habitually to be considered as valid.

SECT. IV.—THERAPEUTICS.

ART. 80.—*On Anæsthetics.*

By Dr. MASON WARREN, M.D.

(Surgical Observations, with Cases, 1866.)

"The change made in the practice of surgery by the discovery of the anæsthetic power of ether, can scarcely be appreciated by those who have come on the stage since the introduction of this agent. It was in the city of Boston, a little more than twenty years since, that the full value of this discovery was first demonstrated and published; and it is truly remarkable, that at the present day, artificial anæsthesia is best attained by sulphuric ether, used in substantially the same manner as when it was first tried in surgical observations at Massachusetts General Hospital. While chloroform is acknowledged to be dangerous, and while the foreign medical journals contain frequent notices of death from the use of this potent agent, it is a striking fact, that out of the hundreds of thousands of cases of etherization, the first undoubted case of death from its action is yet to be recorded. It is not pretended by this statement to abjure the use of chloroform, which, in some cases, is certainly preferable to any known anæsthetic; being far more concentrated in form, more agreeable, and more active in administration, than any of the many substitutes which have been proposed for it. On the battlefield, especially, its greater portability is likely always to secure the preference for it over safer but more bulky anæsthetics.

The first, and perhaps the most important application of ether is in producing unconsciousness of pain; and it is for this boon that the patient will ever be chiefly thankful. To the surgeon also, the non-infliction of pain is often a matter of the greatest moment, for he can now undertake a long and tedious dissection, or a delicate exploration of an acutely inflamed cavity, undisturbed by the involuntary movements of the patient. The power to abolish pain has also materially enlarged the domain of operative surgery, not only by diminishing the dread of common operations and allowing of their more frequent performance, but also by admitting into the list of justifiable operations some whose severity would otherwise in most cases forbid even the thought of attempting.

The other great application of ether in surgery depends upon its power of relieving the voluntary muscles by inducing a state of the brain analogous to coma. In the deep sleep of complete etherization, the manipulation and reduction of fractures and dislocations, the diagnosis and treatment of anchyloses, the reduction of strangulated hernia, &c., are immensely facilitated. The question of its use in certain special departments of surgery will be noticed elsewhere.

This is not the place to dwell on the very important uses of ether in midwifery, and in painful or convulsive medical diseases; but of its inestimable value in the alleviation of suffering during the last moments of life, I cannot omit this passing notice.

About a year after the discovery of the anæsthetic power of ether, chloroform was introduced, and, from its fascinating qualities seemed likely to displace ether, which had the disadvantage of being disagreeable to the smell and taste, and objectionable under certain circumstances from its inflammability. Very soon, however, fatal accidents began to be caused by chloroform; many of them occurring where it was given for minor operations. The proportion of deaths has continued up to the present time, and may be estimated at about one a month for the last twenty years; which ratio seems scarcely reduced by the use of any care or ingenuity.

Dr. John C. Warren and myself introduced into practice, and used for about five years, concentrated chloric ether, prepared by distillation after a process recommended by Dr. A. A. Hayes. It had the advantage of being very agreeable to the taste, not inflammable, easily manageable, safe, and a good

substitute for chloroform. Its liability to adulteration, and some accidents which subsequently occurred, probably from that cause, after its use became extensive through the country, led us to abandon the responsibility of recommending it, and to return to the use of sulphuric ether.

Ether was first administered by an apparatus. The use of this was inconvenient, especially with children, and led me to administer it in a simple sponge, which immediately took the place of the apparatus everywhere.

In the course of twenty years, as already stated, not a single death can be fairly attributed to the use of sulphuric ether. In the Massachusetts General Hospital alone it has been employed over twenty thousand times, without a single unfavorable occurrence. In some cases, particularly in young persons and females, I have seen disagreeable and troublesome symptoms occur from prolonged etherization. From the great frequency of the use of artificial teeth, the following not unusual accidents may be mentioned. In one instance, after operating upon a lady under ether, for a tumor in the thigh, I found her in an apparently dying state; respiration having almost ceased, and the pulse being just perceptible. Passing my finger down the throat, in order to admit a current of air to the larynx, I discovered an entire upper set of artificial teeth closely forced down on the glottis. These being withdrawn, it was only after a long persistence in the use of the usual remedies employed to recover a person from drowning, that the regular course of respiration and circulation was restored. She then became violently delirious for a time, but recovered well. I have once or twice, in the course of etherization, found artificial teeth loose in the mouth; and now generally inspect it previously, when I have suspicion of their presence.

It will be observed that the supporters of chloroform lay much stress on the method of its administration by an instrument, or otherwise, in order to measure the quantity given, and proper admixture with atmospheric air, from the fear of dangerous consequences. No fear or precaution of this kind is to be apprehended or required in the use of ether. In fact, the more liberally it is poured on the sponge or towel or lint, the more rapid and perfect is the etherization—the intermediate state of excitement being avoided—and the quicker the patient expels it from the system after the operation. In children who resist violently, one or two screams so effectually empty the lungs of atmospheric air, which is at once replaced by the vapor of ether, that insensibility is almost immediate.

The importance of having the ether properly prepared and thoroughly washed, so as to free it from alcohol and other irritating substances, should be carefully looked to, otherwise the action of it is disagreeable at the time, highly irritating, and its subsequent unpleasant effects more protracted."

ART. 81.—*Contra-indications to the Use of Anæsthetics.*

By M. GOSSELIN.

(*Gaz. des Hôp.*, October 31; and *Medical Times and Gazette*, November 21.)

One of these, M. Gosselin observed in a recent clinical lecture, is the inveterate use of alcoholic drinks so common in the classes brought to the hospitals. In subjects of this kind who have passed their 50th year, anæsthetics should either be abstained from or employed with the greatest circumspection, so that the anæsthesia may not be too deep or too prolonged. Another still more important contra-indication is the state of stupor which immediately follows violent injuries. This, indeed, is self-evident; but the question arises as to how soon after the cessation of such stupor are anæsthetics admissible. After some of these great injuries, when all the known signs of such stupor have disappeared, there may be a certain amount of latent (*larvée*) stupor which may yet deceive us. This is at present a very ill-determined matter, to which M. Gosselin is desirous of drawing the attention of surgeons. Amongst the injuries in which M. Gosselin thinks that the employment of anæsthetics is unadvisable, are recent dislocations, and especially those of the shoulder, in consequence of the

serious lesions of important trunks of nerves which may be present. The objection does not hold good with regard to old dislocations, wherein anæsthetics are particularly indicated.

ART. 82.—*The Administration of Nitrous Oxide as an Anæsthetic.*¹

By J. T. CLOVER, F.R.C.S.

(*British Medical Journal*, August 22.)

After a brief history of the gas as an anæsthetic, Mr. Clover described his apparatus for administering it, consisting of a face-piece made of sheet-lead, so as to be easily moulded to the face, and edged with India-rubber tubing, so that the nose and mouth may be completely covered with an air-tight cap, obviating the necessity for pinching the nose. Two valves prevented the gas from being breathed a second time. When a patient breathed in a rapid and forcible manner, to prevent any air from being admitted by the falling of the cheek, a supplemental bag holding about 200 inches was connected by a stopcock to the face-piece. The anæsthesia might be prolonged through a nose-cap alone. It was well to avoid giving the gas after a full meal, or with tight dresses. Whilst fitting the mouth-piece, the patient should breathe air only by means of a stopcock contrived by Mr. Clover, and the gas should not be turned on until the patient breathed steadily. As long as he breathed calmly, the supplemental bag should be empty, but when he began to pant, the stopcock should be opened. The gas received into this bag was so readily yielded during inspiration, that no air was sucked under the face-piece. When the breathing had become so calm as scarcely to raise the expiratory valve, the supplemental bag should be compressed at every fifth or sixth inspiration, and allowed to refill with fresh gas. Lividity after twenty or thirty seconds was no sign of anæsthesia. In about fifty seconds the expression altered, the eye became unsteady, the hands, slightly convulsed; inhalation might be continued ten or fifteen seconds longer, unless respiration became very slow, or stopped, or the pulse very quick or unsteady. Sudden dilatation of the pupil should cause immediate removal of the gas. If general muscular rigidity did not come on during inhalation, it often did when the operation began, and then the breathing might cease for ten or fifteen seconds without alarm if the pulse could be felt. The next gasp of pure air produced immediate restoration; but the inhalation should be at once discontinued if the pulse threatened to stop. Slight hysteria sometimes supervened for a few minutes, but it never lasted so long as after chloroform. Mr. Clover had given nitrous oxide in 387 cases, in all of which the patients had been able to walk away after the operation. Only three cases of sickness had occurred. Two patients who took it well were subject to epilepsy. Whether it would supersede chloroform in long operations was exceedingly improbable; but for short operations, in rapidity of recovery and absence of unpleasant consequences, it contrasted favorably with that agent. In experiments on various animals, he had always noticed that respiration stopped before the circulation; and he was convinced that, in case of danger, artificial respiration was the proper remedy.

ART. 83.—*On the Anæsthetics of the Present Day.*²

By A. ERNST SANSOM, M.D., F.R.C.P.

(*British Medical Journal*, August 8.)

The author reviewed the anæsthetics now employed with reference to their special advantages in special cases and circumstances. The employment of nitrogen proved how that anæsthesia could be induced by the mere deprivation

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

² *Ibid.*

of oxygen. It induced the accumulation of carbonic acid in the blood, so that its administration was really equivalent to the administration of carbonic acid. Nitrous oxide had shown special advantages in cases of dentistry. The author considered that it acted chiefly by filling the lungs with a gas which could not sustain the normal processes of aëration, but he thought that it also had a special action on the blood. He considered that great care should be used in its employment, and it should not be given to any patients suffering from pulmonary, cardiac, or cerebral affections; it should certainly not be employed for any prolonged operation, but to the dental surgeon it was a great boon, inducing a rapid anæsthesia, and being followed by an immediate recovery. It should only be trusted in skilled hands, and should then be used with caution. Inasmuch as both these agents induce their effects by the superinduction of an excess of carbonic acid in the blood, he recommended a renewed trial of this anæsthetic, which had been formerly employed with advantage. Briefly alluding to tetrachloride of carbon and bichloride of methylene, the author next turned to chloroform, the great danger of which was the large and unnecessary proportions which were administered. By a very large number of calculations, the author proved that by the common means adopted, atmospheres of from three to ten times the necessary strength were employed. He determined that the best diluent for chloroform is absolute alcohol; and if practitioners would use a mixture of equal parts of chloroform and alcohol, danger would be reduced to a minimum.

ART. 84.—On the Therapeutical Action of Kinovic Acid.

By Dr. KERNER.

(*Deutsche Klinik*, 1868. *Aertzliches Literaturblatt*, No. 6. 1868.)

1. The presence of kinovic acid is the predominant cause of the tonic properties of cinchona bark.

2. When given even in large doses it produces no cerebral congestion, symptoms of which, it is known, readily come on with continued large doses of the nitrogeous components of cinchona bark. Dr. Kerner's researches show that adults do not experience the slightest bad effects after taking daily from 15 to 20 grammes of kinovate of lime.

3. The kinovate of lime, as a bitter and tonic, is superior to most of the agents hitherto used as bitters.

4. The action of fresh prepared kinovic acid upon the intestinal secretions is strikingly perceptible; the tonic is at once absorbed, and causes an abatement of the peristaltic movement of the intestines. The acid has been administered in cases of severe dysentery with the most satisfactory results.

5. With chronic forms of nervous diarrhœa, both slight and obstinate, Drs. de Neufville and Wallach have seen frequent good results from the use of this remedy.

The following methods of administration are recommended by Dr. Kerner:—

(a.) In the form of powder: 2.8 grammes of kinovate of lime with finely powdered white sugar or phosphate of lime, to be taken in the form of a lozenge once or twice in the day; or from one-half to three drachms of the kinovate, with powdered phosphate of lime, to be taken every twenty-four or every thirty-six hours.

(b.) In the form of mixture: from two to six drachms of the kinovate of lime, to be rubbed up with some gum tragacanth and from five to eight ounces of water; into this mixture, whilst it is being well shaken, dilute phosphoric acid is to be added by drops until the chalk and the kinovic acid are separated in a finely divided condition.

ART. 85.—*Therapeutic Value of Belladonna in Reference to Diseases of the Bladder and Urethra.*

By REGINALD HARRISON, F.R.C.S., Assistant-Surgeon to the Royal Infirmary, and Lecturer on Anatomy at the School of Medicine.

(*Liverpool Medical and Surgical Reports*, October.)

As a topical preparation, Mr. Harrison has used belladonna with benefit in some of the more obstinate forms of stricture, especially those consequent on injuries of the urethra.

The most convenient way of applying it (he says) is with the oleum theobromæ of the Pharmacopœia, which is sufficiently hard at ordinary temperatures to permit of its ready introduction into the urethra. The author generally recommends two grains of the extract of belladonna to be used in this way twice a day, in conjunction with the regular introduction of the metallic bougie in gradually increasing sizes; the belladonna should be persevered in for some time after the bougies have been discontinued.

Very great and permanent benefit has resulted from this plan of proceeding, and in cases where the bougie treatment *alone* had previously only effected but very temporary relief. Mr. Harrison adds that his observation is confirmed by others who have given this plan a trial. Administered internally, belladonna is one of the most valuable anodynes we possess.

The disorders of the urinary system in which the remedy is generally applicable, are those which may be classified under the generic term of "irritable bladder." Its use may be advantageously continued, in conjunction with other expedients, for the removal of any exciting causes that may be present, such as the dilatation of strictures, removal of calculi, and other sources of irritation.

There is a form of irritation not infrequently observed, both in males and females, more especially the latter, where there is great irritability, accompanied with the deposition in the urine of large quantities of epithelium. The symptoms sometimes resemble those of calculous disorders, but on introducing a sound, a roughened condition of the lining membrane is alone detected. These almost invariably do well under the influence of belladonna. The nocturnal incontinence observed in delicate children, in nearly all cases the results of a simply irritable bladder and nervous system, do well with small doses of atropine, combined with general hygienic measures.

Mr. Harrison generally prescribes the extract of belladonna in grain doses, once or twice a day, in the form of pills; or the solution of atropine $\frac{1}{10}$ of a grain to $\frac{1}{6}$, very gradually increased, until a slight degree of atropism—dryness of the throat, or dimness of vision—is produced. Beyond this it is undesirable to go. Dr. Anstie speaks very highly of the hypodermic administration of atropine in the first number of the *Practitioner*. He, at the same time, very properly points out the caution with which the remedy, in this form, should at all times be used.

ART. 86.—*Ipecacuanha in Emetic Doses as a Stimulant, Restorative, Eliminative, and Adjuvant, in Various Cases of Disorder and Disease.*¹

By JOHN HIGGINBOTTOM, Esq., F.R.S.

(*British Medical Journal*, August 22.)

The author inferred that the interests and advancement of the profession could not fail to be greatly promoted by a long, careful, and practical investigation of a single therapeutic agent. He was of opinion that emetics were much less used than formerly. Ipecacuanha, besides its specific properties as

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

an emetic, expectorant, and diaphoretic, had other valuable properties which he believed had not been particularly noticed by the profession. He had constantly, for more than half a century, administered ipecacuanha in English cholera, fevers, erysipelas, neuralgia, periodical drunkenness, uterine hemorrhage, complaints in old age, syncope, senilis, &c. The main efficacy of ipecacuanha is in stimulating and restoring the normal action of the capillary system.

ART. 87.—On the Employment of Collodion for Limiting the Action of the Actual Caution.

By M. VOILLEMIER.

(*Gazette des Hôpitaux*, No. 61, 1858.)

The following is the substance of a clinical lecture delivered at the Hôtel Dieu :—

The difficulty of limiting the action of red-hot iron, particularly when one wishes to apply it to very circumscribed parts, is well known to all surgeons. The more the extremity of the cauterizing instrument is sharpened or pointed, the greater necessity is there for its being surmounted by a thickened portion, which may serve as a reservoir for the amount of caloric indispensable for producing a deep eschar. But from this reservoir the caloric radiates over the parts adjacent to that which the surgeon proposes to attack, and causes burns of the first or second degree, which have a greater or less extent. This accident is of some importance. To it is due those pains which are felt by patients after every cauterization; pains which are acute, lasting for several days, and having an intensity which is scarcely diminished by the continuous application of refrigerant lotions. After some days the epidermis is detached, leaving the true skin exposed, and causing an extensive superficial wound, which surrounds the point—often very limited—destroyed by the hot iron. These superficial wounds often persist for a long time, and are confounded with those which succeed the detachment of the eschar. Attempts have been made to remedy these inconveniences by surrounding the parts to which the iron is to be applied with wet lint or pieces of wood. These means, however, are insufficient, and very often interfere with the execution of the operation. The following is a simple and more certain proceeding, from which I have derived great benefit during the last five years :—

The parts upon which it is intended to apply the actual cautery having been carefully dried, the surgeon commences by brushing over them one or two layers of collodion. In the course of a few minutes this collodion becomes dry, and of a white color. It is necessary to wait for this before acting; otherwise the vapor of ether which is thrown off would take fire on contact with the red-hot iron. This slight accident is of no consequence, blowing upon the vapor suffices to prevent ignition, or to put out the flame, but as it causes some fright on the part of the patient, it is better to prevent it. Cauterization is then performed in the ordinary manner; the collodion is immediately destroyed at the parts touched by the cautery, the action of which is not diminished; but it remains on the neighboring parts, where it forms a kind of artificial epidermis. This epidermis is very thin, but is composed of pure cellulose, which is a weaker conductor of heat than wood itself; and so efficaciously protects the tissues from the radiating caloric of the cautery.

After the cauterization, if the collodion be removed, the skin will be found pale and healthy. It is better, however, to allow it to remain, as its constrictive action, though slight, will serve to prevent to some extent an accumulation of fluid in the tissues around the burnt part.

It is useless to cover the parts with soft lint after the cauterization, as the patient feels little or no pain. This is what might be expected; the parts touched by the iron are disorganized and insensible; the adjacent skin is healthy, and has not been affected by the radiated heat.

This proceeding, useful when practised in cauterization of the joints, is still more so when applied in the region of the axilla, or about the anus, where the

parts about the cauterized spots must be in close proximity to the hot iron. It will also render good service when the surgeon has occasion to apply heat to a deep cavity like the vagina. I have frequently covered the neck of the uterus with collodion before applying the hot iron, and after the removal of the speculum, the extremity of this instrument has been found closed by a diaphragm which was pierced in its centre by an opening indicating the circumscribed spot on which the cautery had acted.

ART. 88.—*Arsenic in Phthisis.*

By M. HÉRARD.

(*Medical Times and Gazette*, November 14.)

At the last meeting of the Académie de Médecine, M. Hérard read a report on a memoir presented by M. Moutard-Martin, "On the Value of Arsenic in the Treatment of Phthisis." The reporter observed that the question of the efficacy of arsenic in this disease had been frequently treated of, but that the observations hitherto published were defective in exactitude. Such a reproach cannot be directed against the present author, who, long accustomed to clinical practice, has taken care to furnish exact indications not only as to the nature, but the stage of the disease, and the particular form it exhibited. Moreover, he has detailed the effects of the arsenic treatment employed exclusively. Almost all the patients, after a few days' treatment, exhibit a marked improvement in their general condition. The appetite improves, the strength returns, the complexion is clearer, and the eye is more animated; and, at the end of three weeks or a month, flesh begins to be gained. The local malady undergoes less change, but even this is sometimes sensibly modified. The favorable action of the arsenic is most observed in cases in which there is no acute fever or serious digestive disturbance. When there is intense febrile heat, whether continuous or remittent, and this is accompanied by much sweating, vomiting, and diarrhoea, and especially when the phthisis is acute, there is little or no amelioration, or this is not durable. The results have been found to be much more favorable among patients in private practice, who are placed in better hygienic condition than in hospital patients. The first appreciable effect of the administration of arsenic is the return of the appetite; whether this results from its direct action on the mucous membrane of the stomach, or from its more general operation as a tonic and neurosthenic. Another important effect it produces is that it moderates the oxidization of tissue, and thus efficaciously opposes denutrition. M. Lolliot, the most recent observer, finds that the daily administration of ten milligrammes of arsenious acid produces a diminution of temperature, and a very notable diminution in the amount of urea. The reporter is inclined to believe that arsenic may exert a direct action on the lung, as the respiratory mucous membrane is one of the channels of its elimination, while it proves useful in chronic bronchitis and asthma, and is resorted to by the peasantry in the Tyrol and elsewhere to facilitate their respiration during the ascent of high mountains. The arsenious acid should be administered in the form of pills or granules, each containing one milligramme, seven or eight of which may be taken at first per diem, rapidly increasing the number to ten, or fifteen, and, very rarely, even to two centigrammes. By taking care so to divide the doses as not to give more than two pills at a time, and that when possible before meals, all accidents are avoided. It is only very rarely that it becomes necessary to suspend the medicine or diminish its dose on account of slight temporary gastro-intestinal disturbance. Still it is necessary, as a matter of precaution, from time to time to suspend the treatment. This important memoir, the reporter observes in conclusion, will greatly contribute to establish the entire harmlessness of this substance when properly administered, as well as its indubitable efficacy.

ART. 89.—*Alcohol as a Dressing to Surgical and Traumatic Wounds.*

By W. F. McNUTT, M. D., M.R.C.S.E., L.R.C.P.E., &c., late Surgeon U. S. N., Visiting Physician to S. F. Dispensary, &c.

(*California Medical Gazette*, July.)

The advantages claimed for alcohol as a dressing to surgical and traumatic wounds are, that in recent wounds it coagulates the soluble albumen on the surface of the wound, corrugates the tissues, and contracts the small vessels, thereby preventing the accumulation of blood or serum between flaps or the edges of wounds, which would necessarily prevent primary union.

Applied as a dressing to granulating wounds, it acts as a local stimulant, prevents largely the formation of pus, lessens the chances of the patient's having pyæmia, is an excellent disinfectant, and possesses the advantage of being a stimulant to the general system.

ART. 90.—*On the Limits of Alcoholic Stimulants in Acute Disease.*¹

By W. T. GAIRDNER, M. D.

(*British Medical Journal*, August 22.)

The purpose of this paper was to recommend a very much lower scale of administration of wine and spirits than has been usual of late years in acute disease. The author especially condemned the practice, and also the theoretical views leading to the practice, of the late Dr. Todd. He explained, in answer to certain criticisms, that this discussion involved no disrespect to the memory of a justly distinguished physician; but that the views adopted by Dr. Todd had been so strongly maintained, and so largely influential, as to make it absolutely necessary to bring them under review in any general statements upon the subject. Dr. Gairdner hoped that the pupils of Dr. Todd present at the meeting would correct him, if he, in any degree, overstated or misstated what Dr. Todd's opinions and practices were. The author then alluded at considerable length to the evidence already in part published, and now further extended, that typhus fever could be treated not only safely, but with a diminished rate of mortality, when stimulants are used very sparingly, and (in the majority of cases) altogether withheld. He did not, however, argue for the disuse of stimulants as remedies, but for their administration upon a much lower scale, and with a quite different object in view from Dr. Todd and others, who had advocated very high doses. The arguments advanced in this part of the communication had necessarily to be stated in a very condensed form, and indeed the paper as written, with the details of evidence, will, we believe, be published at no distant date; so that we shall, in the mean time, best fulfil the object in view by giving insertion to the following brief concluding statement. The author, after dealing with the case of typhus fever, and extending the argument to acute disease in general, contended that the fair analogies deducible from the facts, and the gradually and insensibly acquired experience gained from watching individual cases of general acute disease, concur in rendering probable most of the following inferences:—

1. The importance of proper nourishment and sustenance in febrile cases is very great; and nothing can be worse than the old and now happily exploded system of depletion and starvation. But it is not less an error to conceive of alcoholic stimulation as a proper substitute, in such cases, for ordinary food. Milk is the normal food of most persons in acute disease; and there are very few persons, even in severe fevers, who cannot receive it to the full extent of their powers of assimilation; but most of the other simpler elements of an ordi-

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

nary diet may be employed with advantage in particular cases. Beef-tea (so much favored by Dr. Todd, in conjunction with alcohol) is of very inferior nutritive value, and therefore of altogether secondary importance to milk; and further, beef-tea very often disagrees with the stomach, when milk and farinacea can be freely taken. In enteric cases, beef-tea has been found occasionally to increase the diarrhoea, and it is usually to be avoided, or very cautiously given, on that account.

2. The proper mode of administering food in cases of febrile disease is to imitate, as closely as the condition of the patient admits, the usual practice in health; and most patients, even in severe fevers, retain so much of the habits and functions of health as to enable them to digest a good deal of simple food, conveyed into the stomach at proper intervals, and with sufficient intervals of rest to allow of a return of the desire for food in some degree before again giving it. To give brandy and beef-tea every hour or half-hour, and to continue this practice for days and nights together, even wakening up the patient (as is recommended by Dr. Todd) in order to give him his food and stimulant, is the surest of all ways to destroy whatever remains of natural appetite, and to derange altogether the already much weakened function of assimilation. In a few almost desperate cases, where the power of swallowing is nearly lost, it may be advisable to give food at much more frequent intervals during waking hours than in other cases; but rarely, if ever, to disturb the patient when asleep.

3. The proper use of alcoholic stimulants in cases of acute disease, is nearly the same as in other cases, or in comparative health, viz., to quicken and develop the appetite for real food, and the power of assimilating it. The proper and normal time, therefore, for giving these stimulants in fevers is *along with the food, i. e., at the regular meal times, and not during the intervals*; except in cases where the nervous system is much disordered, and where a moderate dose of the stronger stimulants may sometimes be of great use in procuring sleep.

4. The proper dose of alcoholic stimulant, and also the proper kind of stimulant, to give in each case, is subject to considerations derived much more from the age, sex, and previous habits of the patient, than from the severity or character of the fever. It is an error to suppose that patients affected with very severe symptoms of acute disease are capable of tolerating indefinitely greater amounts of alcoholic liquors than can be given in milder cases, or even to the same persons in health. It is even probable that, in some cases, the susceptibility to over-stimulation is greater in fevers than it is in health. At all events, it is usually a practical error to carry stimulation much beyond the line above generally indicated.

5. In most cases of young persons, and in very many adults not accustomed to the daily or frequent use of alcoholic liquors, these ought not to be given in quantity, or even at all, without the most clear evidence of their being really required. The effect of each dose should be carefully watched, and *it is almost always safer to withdraw the stimulant entirely for a period of hours, than to run the risk of over-stimulation*. It is almost certain, from facts already observed, that, in young persons, the mortality of fevers is greatly increased by the continuous administration of alcoholic stimulants, even when the more striking or obvious symptoms of over-stimulation do not become apparent.

6. The effect of stimulants moderately and judiciously used, in certain critical states of acute disease, is to restore and refresh the patient, to favor natural sleep, to lower the rate of the pulse, to quicken the appetite, and increase the power of assimilating food. The effect of stimulants continuously or immoderately given is to destroy the appetite for food, to produce torpor, to give rise to more or less profuse sweating, to dry the tongue, to prolong the febrile debility, and to protract the crisis. There is reason to think that in typhus fever the normal crisis may be delayed for several days by the constant administration of brandy, after the manner recommended by Dr. Todd.

7. In the self-limited fevers, in which the phenomena of the crisis are well known, and in which the course of the disease may be easily defined and anticipated, it is usually requisite to be very sparing of stimulants in what may

be termed normal cases, because in these the disease is to be recognized as running a definite course; while any considerable excess has a tendency to convert the case into an abnormal one, and to postpone the crisis. It has already been sufficiently indicated that, in the opinion of the author of this communication, alcoholic stimulants rank with drugs and medicines rather than with food. The same minute knowledge of the course of fever which induces a well-educated modern practitioner to abstain from constantly drugging his patient, will also, in most cases, lead him to abstain from stimulation. And on the whole, it may be confidently anticipated as a result of improved consideration given to the subject, that the profuse and continuous administration of alcoholic stimulants, with a view to alimentation in acute disease, will ere long be abandoned as inconsistent with an enlightened physiology and a sound practice. While stimulants will continue to be prescribed to the sick, on the same principles and for the same ends as causes them frequently to be taken with refreshing and beneficial results in comparative health, their function in acute disease will more and more come to be recognized as a strictly limited one; so that continuous administration, or administration carried out to such doses as twenty-four, thirty-six, or forty-eight ounces, in the twenty-four hours, will be abandoned, as involving an error in principle, and serious danger to life in actual practice.

8. A subordinate, though still a very important consideration bearing upon such profuse and continuous stimulation as is above referred to, is that very liberal doses of wine and spirits, given habitually under medical advice, tend to give a wrong bias to public opinion; and (even apart from the grave moral consequences arising from the abuse of alcoholic liquors) tend to involve the whole medical practice of the country in a system of unnecessary, and therefore wasteful expenditure. It is as nearly as possible a demonstrated fact, that much of what is spent in wines and spirits for the sick in hospitals (and, therefore, probably also in private practice) is unnecessarily, if not injuriously spent. The more exact evidence of this statement is deducible from the observation of typhus fever; but there is reason to believe that what is true of typhus fever in this respect may with almost equal confidence be affirmed of most other acute diseases. At all events, typhus fever, as it occurs in Glasgow, almost always among the poor, and often the most ill-nourished, debilitated, and dissipated classes, is the very type of a disease which would appear to require the highest doses, and the most frequent and liberal administration, of alcoholic stimulants. Yet it has been clearly shown that typhus fever in Glasgow may be treated, *with a diminished mortality*, with the aid simply of milk diet and careful nursing; alcoholic stimulation being deliberately maintained upon a scale so low as to make it quite an exceptional, and therefore purely therapeutic agent. In the City of Glasgow Fever Hospital, the careful and most scrupulously watched experiments of Dr. J. B. Russell¹ have led, almost insensibly and without any fixed plan, but *with an increased success as regards results*, to lower from year to year the scale of stimulation *on the whole*, until last year the calculated amount of absolute alcohol administered in the form of wines and spirits to each patient, on an average, during each day of the treatment, was less than *one-sixth of an ounce* (0.1630 ounce); and the expense of this quantity was little more than three farthings, while the entire bill for wines and spirits consumed during a year in which 969 cases of febrile disease (mostly typhus) were under treatment, was 34*l.* 5*s.* 6*d.* The mortality of typhus (including all the cases admitted moribund) during the same period, was, in this hospital, only 9.05 per cent.; being the lowest ratio of mortality, I suspect, that has ever been attained in the treatment of so large a number as nearly a thousand cases, accurately distinguished as genuine typhus.

Dr. Anstie considered the cases quoted from Dr. Todd's practice exceptional. He denied that Dr. Todd's pupils used alcohol very largely in all cases. The action of alcohol as a food was proved by temperature, by the effects of alcohol

¹ "A Clinical Study of Stimulation in Typhus (Glasgow: 1867): and Third Annual Report of the City of Glasgow Fever Hospital, 1868." The former of these papers is a most elaborate inquiry into the whole subject.

in delirium, and by its diminished excretion in the urine. It saved vital force. Cases varied very much in their requirements for alcohol.

Dr. Bateman stated that alcohol, in conjunction with raw meat, had been proved to have been a valuable food in advanced phthisis.

Dr. Fleming said that alcohol was favorable so far as it favored assimilation; but that it was sometimes a local irritant to the gastric mucous membrane.

Dr. Henry Kennedy said that alcohol, as alcohol, was never given but in the form of either whiskey or wine. He denied that maculated typhus was the same disease in Dublin, Glasgow, and London. In Dublin, extreme stimulation is not practised. Wine is a complicated fluid, composed of elements, all of which are useful to the frame; and this utility is both stimulant and nutritive. Statistics were very unsatisfactory as to the giving of stimulants; and in spite of Dr. Gairdner's statistics, wine is often useful in children.

Dr. Moore (Dublin) treated each case on its own merits, as each case differed in its requirements. Delirium very early in typhus was a formidable symptom, and demanded increased stimulation.

Dr. Stokes said the real question was, how we might best treat fever in this or that epidemic, as fever varied at different times in its effects with remedies. Was wine useful, and under what circumstances was it useful? was the main question for physicians. We did not know how to explain the action of any remedy; but, by analogy, as fever was a disease of periodicity, it was natural to suppose it was the effect of some poison which would be eliminated in a certain time, during which the patient would be liable to various modes of death, as from asthenia, complications of internal organs, etc. We could not cure fever; all we could do was to try and obviate the tendency to death. The main point was to know when to add or to diminish stimulants. Many other foods, as well as wine, were useful in obviating this tendency to death.

Mr. Steele (Liverpool) said that stimulants were not remedies for fever. Sir D. Corrigan's rule was a good one: "Discover the chief lesion; if this be vascular, stimulate; if it be of the nervous centres, stimulation can do no good, unless sleep be first obtained." In the epidemic of 1849 at Liverpool, the mortality was great, and stimulation was not much used; but many cases recovered without any medical treatment.

Dr. T. K. Chambers had two rules: 1, where there is delirium, generally give stimulants; 2, where wine helps assimilation, give it.

Dr. Ogle (Derby) gave stimulants when the tongue was furred and sordes appeared on the teeth, and generally whenever there was delirium.

Dr. Haughton stated that in the Longford Infirmary no stimulants were given.

Dr. Gairdner, in reply, stated that he was no bigot on this question. He admitted that epidemics varied in intensity; but denied Dr. Kennedy's statement, that typhus was a different disease in various parts.

ART. 91.—*Carbolic Acid as a Remedial Agent.*

By W. KEMPSTER, M. D., Utica, N. Y.

(*American Journal of the Medical Sciences*, July.)

The first application of this agent, under Dr. Kempster's own observation, occurred in a case of catarrh, where the discharge was profuse, offensive, and consequently very annoying to the patient. Various remedies had been previously tried, without success. Hoping to derive advantage from its properties as a disinfectant, it was administered to the patient by inhalation, using one grain to an ounce of water, and conveyed the liquid to the affected parts by means of a steam spray-producer. The effect surpassed his most sanguine expectation. It not only relieved the fetor, but in the course of two or three inhalations changed the character of the discharge, and the patient recovered rapidly.

This induced a trial in a second case, not so serious as the first, but still severe, and the result was equally satisfactory, the symptoms all disappearing

in the course of four weeks. After the first few inhalations, the patients were instructed in the use of the spray-producing apparatus, furnished with a bottle of the solution (one grain to the ounce), and directed to inhale the vapor for ten minutes at a time, both morning and evening; enjoining upon them not to leave a warm atmosphere for half an hour after each inhalation.

It is used at the present time in the treatment of ozæna, nasal polypi, and diseases of the nasal passages in which there is an offensive discharge. Even if it exerted no curative action, its power to correct fetor would be a great recommendation; but this is not all—it stimulates the ulcerated surface to a healthy action, promotes normal granulation, and thus assists in the curative process. If a solution of one grain of the acid to an ounce of water does not seem to meet the indication, the quantity may be increased to five grains, or even more; but it is better to begin with a mild solution, gradually increasing the strength until the desired effect is obtained.

Dr. Kempster's next use of the acid was in a case of scarlatina, where the breath was particularly obnoxious, owing to an ulcerated condition of the throat. A gargle of two grains of the acid to an ounce of water relieved the fetor at once, and apparently proved beneficial. No other gargle or application to the throat was used.

It would seem to be appropriate in cases of diphtheria, a strong solution of the acid being used for a local medicament; its power to correct the foul breath would be an indication for its use, and its astringent and stimulating properties might prove beneficial. In cases of common sore throat (simple tonsillitis) it is found to answer admirably, with the advantage over the ordinary potassa gargles of relieving the "bad taste" and foul breath.

In the State Lunatic Asylum at Utica it is successfully used to relieve cases of sluggishness of the bowels, accompanied by offensive breath. The dose is a drachm of a solution of one grain to the ounce (which is the house standard). A striking exemplification of the efficacy of this remedy occurred in the case of a melancholic patient admitted to this asylum. He had for a number of years suffered from attacks of dyspepsia, accompanied with acid eructations and the formation of gas. Latterly these symptoms became continuous. He complained of intense heat, and pain in the stomach; stated that the eructation of fetid gas had become unbearable; and the same smell emanated from the cutaneous surface, so that it was offensive to every one in the room. He was at once put into a warm bath, then thoroughly washed with a solution of the acid (gr. v to the ounce). Internally two drachms of the standard solution were given three times daily for two days. At the end of this time the breath was sweet, and no unpleasant exhalation from the skin was perceptible. He was also relieved from the painful distension produced by the formation of gas in the stomach and bowels. Whenever he feels the approach of this difficulty, two or three doses of the house preparation relieve him at once from this unpleasant and painful complication.

Yeasty stomach, sometimes consequent upon a meal of rich food, which produces flatulence and expulsion of gas, with a tendency to regurgitation, is usually relieved by a drachm or two of the solution of the above mentioned; this checks the fermentative process. The power it possesses to arrest fermentation would be an indication for its employment in sarcina. Diarrhœa produced by eating unripe fruit or other articles which promote fermentation is speedily relieved by combining a drachm or two of the solution with the usual remedies. As a dentifrice, commingled with myrrh or some aromatic, it removes the odor arising from carious teeth.

As an external application, the acid possesses valuable properties. Dr. Kempster has seen great benefit derived from its use in the treatment of bed-sores. In one case, where there was a gangrenous tendency with extensive sloughing, and a devitalized condition of the surrounding tissue, a solution of fifteen grains to the ounce cleaned the surface of the ulcer at once, and stimulated normal granulations, which led to a rapid healing of the wound. Where there is a tendency to the formation of bedsores, sponging the parts with a solution of the above strength seems to operate beneficially.

An ulcer situated between the cheek and alveolar process of the left malar

bone; discharging a thin sanious pus, was syringed out with a solution of the strength last mentioned. The pus became laudable, the discharge less in quantity, and the wound healed rapidly.

One of Dr. Kempster's assistants punctured his finger at a *post-mortem* examination. Forty-eight hours thereafter the wound became an ill-conditioned ulcer with an inflamed base, the redness extending some distance beyond; and the course of the lymphatics could be traced above the wrist. At Dr. Kempster's suggestion he applied the crystallized acid, removing it by a stream of cold water after a slight eschar had been produced. It changed the condition of the ulcer at once, which without further treatment healed.

A patient applied to the author for something to relieve the "burning heat" in her arm. He found it to present an appearance like that which precedes superficial erysipelas, to attacks of which she was subject. A cloth wet with a two-grain solution was applied; it relieved the heat at once, and the following morning all symptoms had disappeared.

An unguent made of five grains of the acid to an ounce of simple cerate corrects the odor attendant on cancerous discharges, and it is also recommended for overcoming fetid perspiration from the axillæ or feet. A stronger unguent—ten grains to the ounce, or, what is preferable, a glycerolate of this strength—destroys the *acarus scabiei*, *pediculi capitis*, *et id genus omne*.

As a remedial agent in certain forms of skin disease it seems to possess decided advantages. A patient applied for something to relieve a disordered condition of the scalp, which had existed for some time. It proved to be a well-marked case of *tinea capitis* in an advanced stage. The crusts had cracked open, with a straight smooth fracture, presenting a shining floor, looking as though the scalp had opened and exposed the cranial bones. There were several of these cracks, measuring from a half inch to two inches in length, the principal ones occupying a position over the region of the anterior fontanelle, and extending several inches in each direction. Other crusts had formed over the temporal and occipital regions. In order that the acid might be effectually tried the hair was cut short, and the entire scalp washed with a solution of the acid (two grains to the ounce) four times daily. The subsidence of the disease was marked; those crusts in process of formation were checked, and the dry grayish crusts already formed, with those cracked open, were speedily removed. After the wash had been continued for one week, a glycerolate of carbolid acid¹ (strength five grains to the ounce) was applied, which possesses the advantage of being a more permanent preparation. The treatment was commenced January 7th, and on January 28th the disease had disappeared. No other treatment, either internal or local, was employed. One other case has been mentioned to the author, which was even more severe than this, and in which various modes of treatment had been employed without arresting its progress. The treatment mentioned above was resorted to with an immediate abatement of symptoms and rapid recovery.

As an injection for gonorrhœa it has proved itself superior to the ordinary remedies and is less painful; the solution used being two to five grains to the ounce. The crystallized acid would seem to be indicated in the treatment of syphilitic ulcers, but upon this Dr. Kempster cannot speak from observation.

ART. 92.—*Auscultatory Percussion.*

By SAMUEL FENWICK, M. D., M.R.C.P.

(*Morbid States of the Stomach and Duodenum.*)

"Auscultatory percussion," Dr. Fenwick writes, "is by far the best mode of defining the extent and position of the stomach. I have been in the habit of using this means of examination for many years, and was not aware that it had been previously described; but the following extract from Dr. Aitken's 'Practice of Medicine' shows that it has been applied to other organs." "A solid

¹ The odor of the acid can be overcome by the addition of a few drops of oil of lemon.

² Aitken's "Science and Practice of Medicine," vol. ii. p. 706.

cedar cylinder, six inches in length, and one inch in diameter, cut in the direction of the fibres, and with an ear-piece attached, is applied to the centre of the præcordial region, while the ear is applied to the other end; percussion is then made by another person from the point near where the cylinder is applied towards the limits of the heart in every direction. So long as percussion is made over the body of the heart a distinct shock is felt directly in the ear; but as soon as the limits of the heart are passed this sharp shock immediately ceases, even in passing from one solid organ to another in contact with it, as from the heart to the liver.—*Drs. Camman and Clark.*

“The manner in which I employ ‘auscultatory percussion’ to the stomach is as follows: The patient being laid on his left side, so that the gas contained in the stomach may rise to the pyloric region, the cup-shaped end of a ‘Camman’s Stethoscope’ is applied to a part in the epigastrium, where, by percussion, I have ascertained that the tympanitic sound exists. I then strike the epigastrium sharply with the fingers, commencing close to the point at which the stethoscope is placed, and mark with ink the line at which the shock of the blow ceases to be felt directly in the ears. By moving the patient, so that he lies first on the back and afterwards on the right side, the gas is made to distend each region of the stomach in turn, and so the outline of the whole organ is completed. There is a chance of error if the stethoscope be placed over a dilated colon instead of the stomach; but when there is reason to suspect that this is the case, the patient should be examined before food, and the boundaries of the stomach having been marked out, the examination should be repeated when the organ is in a state of distension.”

ART. 93.—*On the Value of the Thermometer as an Aid to the Physician.*

By W. AINSLIE HOLLIS, M. B.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

The investigations which form the groundwork of this paper included an examination of more than sixty cases of phthisis, and a still larger number of other cases, as diabetes, disease of the heart, aneurism, typhoid and typhus fevers, pneumonia, bronchitis, pleuritis, erysipelas, scarlatina, phlebitis, &c., and Mr. Hollis establishes the following proposition from his researches, namely, that “all local disorders, whether organic or functional, have a tendency to modify the thermometric ranges of the body, either by producing local variations of temperature, or by affecting those of the system at large.” He then draws up in two tables the causes which tend to lower, and those which tend to raise the temperature of the body. Among the causes leading to diminished temperature are evacuations of various kinds, as, for instance, diarrhoea and looseness of the bowels, but when this diarrhoea is caused by ulceration of the intestines, as in typhoid fever, the temperature is not diminished, but is raised. Perspiration and hemorrhage also tend to diminish the temperature, and the same effect is produced by blisters and other counter-irritants. It is stated that the favorable action of blisters in acute rheumatism may be explained in this view. Deficient aëration of the blood, from whatever cause, will also diminish the temperature of the body. On the other hand, the temperature is raised in many acute and febrile diseases, but still the height of the thermometer in a case of fever is no criterion *per se*, of the severity of the attack, for the temperature may be very high in a favorable case, and much lower than that point in a fatal one. The rapid degeneration or destruction of tissue such as occurs in certain inflammations, and in tuberculosis, carcinoma, and ulceration, also tends to increase the temperature. On the whole, Mr. Hollis arrives at the conclusion that thermometric registrations, although valuable in themselves, do not supersede or lessen the value of careful observations of the general symptoms of disease, and that the real value to be assigned to any given temperature must depend upon a due consideration of the processes which have caused it.

ART. 94.—On the Relative Variations in the Temperature of Paralyzed and Healthy Limbs.

By M. R. LEPINE.

(*Gazette Médicale*, No. 35, 1868.)

1. By placing two limbs, one healthy and the other paralyzed, of an hemiplegic patient in certain determined conditions (and identically the same for both), very marked differences may be observed in their relative temperature. For instance, one of the limbs may become alternately warmer or colder than that of the opposite side.

2. In recent hemiplegia the paralyzed limb which is normally warmer than the sound one, *may become colder* if both limbs are submitted to a certain degree of chilling; if this degree (which seems to bear a relation to the degree of the vaso-motor paralysis) be exceeded, the paralyzed limb is chilled less than the sound one.

3. In very long standing hemiplegia with coldness of the paralyzed limb, the latter becomes relatively warmer than the sound limb, when both are submitted to a certain degree of chilling; the paralyzed limb generally remains colder than the healthy one when both are heated.

The temperature of a limb, the vaso-motor nerves of which do not perform their functions normally, does not seem then to be so susceptible or presenting such considerable deviations either upwards or downwards as that of the healthy limb. It seems possible to account in a general way for the relative thermic variations of the two limbs, by admitting that the vaso-motor actions necessary for adaptation of the temperature of the limb to the surrounding medium, are on the paralyzed side produced more *slowly* and *less completely*.

ART. 95.—On the Therapeutical Application of Glycerine in Gynecological Practice.

By Dr. FÜRST.

(*Wiener Med. Wochenschrift*, 26, 1868. *Schmidt's Jahrbücher*, No. 7, 1868.)

According to the experience of Dr. Fürst and also that of Dr. Sims, the beneficial effects of glycerine applied locally in cases of disease of the female sexual organs, are due to the fact that it sets up through osmosis a capillary drainage, and so produces uterine depletion. It is thus indicated in cases of general hypertrophy of the uterine organs, or when there is intumescence of one or other wall of the womb causing some form of uterine deviation, or again in the various forms of ulceration of the os uteri and in artificial lesions of the genital apparatus. It is applied in the following manner: a plug of clean cotton wool is saturated with one drachm of glycerine, and is placed in the vagina at bedtime, behind the curve in cases of retroflexion, and in front of it when there is a deviation forwards.

The following are the results of Dr. Fürst's trials:—

1. When the hypertrophied elements of the uterine organs are succulent and the tissue is soft, the glycerine causes a gradual flow of a watery fluid, and the uterus appears to become lighter, more movable, and diminished in size. In the course of from eight to twelve weeks the discharge ceases, the vagina becomes dry, and the vaginal portion of the uterus less swollen. In cases where the signs of amelioration were not presented in the above order, some form of ulceration was present which necessitated the application of caustic remedies.

2. When in cases of hypertrophy of the uterus through increase of the fibrous tissue, and of induration of the womb, secretion of watery discharge seldom occurs after the introduction of the wool and glycerine, the application will still work beneficially by lessening the irritability of the uterus, and favor mechanical treatment by sounds, &c.

3. Losses of substance heal rapidly after the use of glycerine, as this agent preserves the surfaces of the wound clean, and protects them from the air.

4. Glycerine may be applied with advantage in cases where sponge tents are used, as it removes the foul smell of the discharge.

5. When granular growths or ulcers of the vaginal portion of the uterus do not heal quickly on the application of glycerine, or when epithelial erosions are produced, the agent generally contains chlorine, chalk, sulphur, or butyric acid.

6. Glycerine acts beneficially in cases of vaginismus, and also does good service in circumscribed endometritis, when injected into the uterine cavity.

ART. 96.—*Sulphate of Nickel in Neuralgia.*

By J. DABNEY PALMER, M. D., Monticello, Fla.

(*Richmond Medical Journal*, April 18; and *Saint Louis Medical and Surgical Journal*, July, 1868.)

The interest of the following remarks does not lie in the employment of the sulphate of nickel in neuralgia, but in its therapeutic effects. We are told that it is a gentle tonic, acting like the preparations of iron and quinia. In this case, however, it seemed to exercise a sedative influence more closely resembling that of the bromide of potassium.

Mrs. B—— has suffered with neuralgia more than three years. During the last two months the paroxysms had been very violent and frequent—occurring every few minutes. She has taken iron, quinine, arsenic, strychnine, colchicum, aconite, morphine, chloroform, valerian, zinc, mercury, electricity, and many other remedial agents with only temporary relief. As Prof. Simpson had used the sulphate of nickel successfully in a case of severe and obstinate periodic headache, I concluded to try it, and began February 19th, giving her half-grain doses three times a day. In less than a week the paroxysms were reduced to only one within twenty-four hours; this came on at noon. On last Sunday (March 1st) it did not commence until about 3 P. M. I was present and gave one grain of the sulphate, notwithstanding she had taken her regular doses that day. Its sedative action was speedily manifested in reducing the pulse and producing sleep. All symptoms of the paroxysm disappeared, and Mrs. B—— states that they did not return until 7 o'clock. In this case the sulphate of nickel has given more permanent relief than anything else; Mrs. B—— tells me that it soothes her quicker than morphine, and is not followed by any unpleasant effects.

ART. 97.—*Sulphite of Soda in Syphilis.*

By S. J. RADCLIFFE, M. D., Washington.

(*British Medical Journal*, October 10.)

Dr. Radcliffe states, in the *Medical and Surgical Reporter*, that he had been using the sulphites and hyposulphites in syphilis; and that the results obtained have been such as to lead him to record his own experience as far as it has gone, so that others may also make a trial of these remedies. He gave them at first in secondary or tertiary cases; but has more recently also prescribed the sulphites and hyposulphites in primary syphilis, after a slight mercurial treatment, with decided advantage. In the older secondary cases, and those in a transition stage from secondary to tertiary, with local manifestations consecutive to primary chancre, such as phagedenic ulcerations, diseases of the mouth, fauces, and nasal passages, he has found, with the internal and external use of these remedies, the parts healing well and healthily, the cachexia disappearing, the patient more cheerful and hopeful at a very early period; and in the primary cases he has found the primary symptoms reduced in violence, the chancre healing, and the early eruption of the skin much limited in extent, and of shorter duration. He thinks also that the lymphatic glands less frequently enlarge, and suppurate

more rarely. In no instance has he failed to receive some advantage. He prefers the sulphite of soda, of which he gives one or two drachms daily in three or four doses, for an indefinite period, or until some change is observed for the better, and according to the progress of the case. Usually, in the course of a week or less, some action is manifested, and the medicine must then be persisted in. Externally, he uses it in simple solution in water, or glycerine and water combined. In ulcerations of the mouth and throat, he directs a simple solution, or as above, as a wash or gargle; and as a wash in syphilitic-sycosis it acts with remarkable promptness. Of course, every other direction necessary to keep the system in healthy action must be observed strictly.

ART. 98.—On the Use of Ether and Etherized Cod-liver Oil in the Treatment of Phthisis.¹

By BALTHAZAR W. FOSTER, M.D.

(*British Medical Journal*, August 8.)

Dr. Foster began by referring to the great difficulty of digesting fatty food, which distinguishes the great majority of phthisical patients. This defective assimilating power had hitherto been treated by incorrect or insufficient means. The only true method of treatment to be adopted in such cases should be directed to the organs whose secretions are at fault. Physiology teaches that the digestion of fat is specially performed by the secretion of pancreas and the glands of small intestine. Dr. Foster had long sought for a means of influencing these glands, and at last had found most ample evidence in the works of Claude Bernard, that ether is capable of augmenting the pancreatic secretions to almost any degree. Bernard was accustomed, in his experiments, to give ether to animals, in order to obtain a good flow of pancreatic juice. Applying this discovery to the treatment of phthisis, Dr. Foster had met with most satisfactory results. The ether was given as a mixture sometimes, but generally in the form of etherized cod-liver oil. Of the patients treated, and all observed over some months, some over two years, 42 per cent. improved under treatment, 30 per cent. remained stationary, and only 28 per cent. became worse; 12 per cent. of the cases treated presented all the evidence of the arrest of the disease. In no case were the symptoms and physical signs alone accepted as evidence of improvement, every case was weighed from week to week while under observation, and only a decided increase of weight in addition to other signs received as evidence.

ART. 99.—On the Influence of a Digestive Habit in the Production of Tuberculosis and the Indications for Treatment drawn therefrom.

By DAVID J. BRAKENRIDGE, M.D., F.R.C.P., L.R.C.S., Edin.

(*Medical Times and Gazette*, June 13 and 20.)

Dr. Brakenridge endeavors to show that by teaching our patients to flee the winter's cold and court a perpetual summer we are refusing to them the best tonic to fat digestion which nature's generous pharmacopœia offers to our choice, and that, with our cod-liver oil and pancreatic emulsion in our hands, we ought rather to give them the benefit of a continued, but not too severe, winter temperature. Thus we might hope to restore the lost function and re-establish the normal and habitual digestion of oils. Several observing physicians mention, almost with surprise, that many of their patients in the earlier stages of the disease have seemed to derive benefit from a low temperature, and to suffer during summer heat. It would be more surprising were the reverse true, for warmth, lessening the oxidation of, and consequent demand for, fats, hastens

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

the establishment of that morbid refusal of them on the part of the digestive organs on which the disease depends: whereas, on the other hand, a cold temperature, by increasing the combustion of fat, gradually rouses the digestive organs to an effort to meet the extra demand. It is in this direction only that we can hope to correct this morbid digestive habit and restore the normal function.

Without entering into the whole subject of tuberculosis, Dr. Brakenridge explains his views under the following heads:—

1. The digestion and non-digestion of different kinds of food may and do become habitual.
2. The condition of body favoring the development of tuberculosis is a habit of non-digestion of fat.
3. The causes of this habit are such conditions as diminish the consumption of, and consequent demand for, fat in the system—e. g., warmth, impure air, want of exercise, &c.
4. In the treatment of this condition the indications are to break this habit and to restore the lost power of digestion of oils.
5. This is to be best done by supplying in increased force what we find to be the chief stimulants to the digestion of fat—e. g., cold, pure air, exercise, &c., and by avoiding all that tend to confirm the bad habit.
6. Summer is therefore more to be dreaded than winter in the tubercular diathesis, and safety to be sought rather in choosing a cool bracing climate in the former season than in the opposite and usual course.

ART. 100.—Beneficial Effects of Quinine in so-called Intermittent Hæmaturia.

By **LIONEL S. BEALE, M. B., F. R. S.**, Physician to King's College Hospital, and Professor of Physiology and of General and Morbid Anatomy in King's College, London.

(*The Practitioner*, August.)

In a case which has recently been under the observation of Dr. Peregrine and Dr. Beale, much benefit, Dr. Beale writes, has unquestionably resulted from the use of quinine in six-grain doses. As the patient is a member of the profession, Dr. Beale has requested him to express his views on the matter. He states that he caught a violent cold in September, 1866, and that ever since he has been in imperfect health. He experiences frequent attacks of chilliness, with coldness and numbness of the feet, and actual pain or mere uneasiness in the loins. His skin has been slightly dusky, and there has been a little sallowness. The circulation is generally feeble, and the heart's action weak. In June, 1867, he suffered from two feverish attacks, ushered in by a feeling of intense coldness. During the August and September following, he noticed at times a dark sediment in the urine. The first occasion on which the quantity of deposit was considerable was after prolonged exposure to wet mist on a glacier in Switzerland, in September. There was violent shivering, and blueness of the hands and feet. During the autumn and winter he says, "I continued out of health, weak, and anæmic. Daily the urine became intensely loaded and scanty from noon till six, pale and copious at other times. Usually one day in three or four some dark brown stuff passed about the time above-mentioned, never otherwise unless from exposure to cold. I improved in health, but was no better as regards the urine till the end of March, when I began to take quinine, which put an immediate check to the symptoms, and has now virtually suppressed them."

ART. 101.—*Notes on Carbolate of Quinia.*

By HENRY SAMUEL PURDON, M. D., L. R. C. P. Ed., Physician Belfast Dispensary for Diseases of the Skin.

(*Medical Press and Circular*, October 14.)

During the last five months Dr. Purdon has prescribed the carbonate of quinia in various diseases, which remedy has been recently introduced into practice by Professor Bernatzik (see "British and Foreign Medico-Chirurgical Review," April, 1868). In the following brief notes he mentions the results he has obtained.

Subjoined is the formula :—

Take of quinia 120 grains, deliquored carbolic acid 30 minims, rectified spirit 75 minims, evaporate to the consistence of treacle, and make into pills with extract of gentian and powdered cinnamon, each pill to contain one grain of quinine and one-fourth of a grain of carbolic acid.

1. *Furunculi*.—Mrs. Minford, aged fifty-one, admitted at Dispensary for Diseases of the Skin, on June 24th, 1868, suffering from the appearance of successive crops of furunculi, duration of disease about two months, health below par, has been taking a good deal of medicine of one sort or other without benefit. Lives as well as her means permit. Ordered one pill of carbonate of quinia thrice daily; on July 15th, discharged, convalescent.

2. *Carbuncle*.—A. Ewing, admitted June 10th, for carbuncle on back, is thin and delicate-looking. No local treatment except an occasional poultice. One pill of the carbolate of quinia thrice daily, which after a few days increased his appetite. Dismissed July 8th, cured.

3. *Syphilitic Eruptions*.—Mrs. H—, æt. fifty, admitted at Dispensary for Skin Diseases, June 27th, suffering from a secondary syphilitic eruption, together with sore throat, states that she received the disease from her husband, had taken mercury, iodide of potassium, and sarsaparilla, before applying at the dispensary. It occurred to me that this would be a good case for trying the carbolate of quinia in; and one pill, thrice daily, gradually increased, till six were taken. No local application. In September she discontinued attending at the Dispensary, as she was apparently cured.

4. *Alex. Wash*, admitted for ulcerated throat and enlarged glands in the cervical region. His mother informed me that she formerly had syphilis, accompanied by an eruption of the skin. The boy has always been in delicate health, his teeth were notched, and complains of pains in the bones at night; had formerly taken iodide of potassium, which gave temporary relief. After taking the carbolate of quinia pills for some time he was much improved in every respect, although a slight enlargement of a few glands in the neck remained.

ART. 102.—*On the Value of Quinine in Delirium associated with Rheumatic Pericarditis.*

By J. M. WINN, M. D., Late Resident Physician of Sussex House Lunatic Asylum.

(*The Lancet*, November 14.)

Dr. Winn adduces the following case to show the great value of quinine, and to encourage a prompt and bold use of this remedy in cases of this kind.

A fortnight since he was summoned to see, in consultation, a young gentleman, fifteen years of age, who had been delirious for three days, and had been attacked with symptoms of rheumatic fever about a week previously. On listening to the heart's action, he found loud and extensive friction sounds over its surface. The left wrist was slightly swollen and tender; the tongue red and smooth; bowels slightly confined; skin moist, but not perspiring profusely. The patient had been taking bicarbonate of potash, and a blister had been recently applied to the region of the heart. Dr. Winn suggested two grains and a half of quinine every four hours, combined with mucilage, and twenty grains of bicarbonate of potash.

The effect of this treatment became rapidly evident; and on the eighth day after Dr. Winn first saw him the friction sounds had entirely ceased, the patient was sitting up, and all the dangerous symptoms had disappeared.

ART. 103.—*The Tests for Sugar in the Urine.*

By Prof. OPPOLZER. Translated by ALFRED L. HASKINS, M. D., Boston, Mass.

(*New York Medical Journal*, October.)

There are very many different methods, and a large number of chemical substances, by means of which sugar may be detected in the urine.

(a) *Moore's Test*.—A small quantity of the solution of potassa is added to the urine to be tested, and then the urine is to be boiled. The upper part of the fluid becomes brown if sugar is present. Or, an excess of caustic potash is added to the urine, and then it is to be boiled. If sugar is present, a red color will appear. Heller advises that, after boiling, a little nitric acid should be added. If sugar is present, the odor of caramel or molasses is detected.

(b) *Pettenkofer's Test* depends upon the action of gallic acid and sulphuric acid upon a solution of sugar. It gives to the urine a dark violet color. On the other hand, the presence of gallic acid is proved by the addition of a solution of sugar and sulphuric acid. The test is, however, not very reliable, and is not much employed.

(c) *Trommer's Test*.—A certain quantity of the urine to be examined is mixed with an excess of the solution of caustic potash, and a few drops of a solution of sulphate of copper are added. If sugar is present, the fluid assumes an azure-blue color. When warmed, boiled, or allowed to stand for some time, the oxide of copper is reduced to a sub-oxide, which is deposited as a red-brown powder. The reaction is made known by the yellow color which the fluid assumes, and which later becomes red, and finally dark brown. If the fluid is heated still more, a thin shining coat of copper is deposited on the walls of the test tube.

(d) *Boetger's Test*.—A solution of carbonate of potash or soda is added to the urine to be examined. A little nitrate of bismuth is then added. The fluid is then boiled. If sugar is present, the oxide of bismuth falls as a black powder.

(e) *Lowenthal's Test*.—To the urine to be examined, a mixture of tartrate and carbonate of soda and chloride of iron is added. If sugar is present, the urine assumes a dark color. This test is not very certain, as oftentimes the fluid assumes a dark color when no sugar is present.

(f) *Raspail's Test*.—Urine containing sugar assumes a violet color when sulphuric acid and albumen are added. This color may appear when no sugar is present. It is therefore an uncertain test.

(g) *Runge's Test*.—A small amount of urine is poured upon a plate, and a drop of sulphuric acid added. The plate is then warmed over a spirit-lamp. If sugar is present, a dark spot appears where the sulphuric acid was dropped. This test depends upon the quality which a saccharine fluid mixed with sulphuric acid possesses of becoming black upon warming. Other organic bodies have the same property as sugar, and therefore this test is not sure. Reich recommends hydrochloric instead of sulphuric acid. This test has the same objection as that of Kunge.

(h) *Meaumedé's Test*.—A woollen substance (merino) is moistened in a solution of chloride of tin and then dyed. If a drop of urine containing sugar is now placed upon the merino and then warmed, a dark spot appears. This test is very simple and convenient, as these pieces of merino can always be had. This test also is not infallible, as other hydrocarbons besides sugar produce the same reaction.

(i) Another test for sugar is that of Cutton with chromic acid, which is reduced to an oxide of chromium when sugar is present. Instead of the original red color of the chromic acid, a green color now appears.

(j) The test of Jones consists in allowing a drop of urine to evaporate, and then the deposit is examined for the crystals of sugar.

The test of Zwenger depends upon the quality which nitrate of silver possesses, when heated to 212° F., in an ammoniacal solution of grape sugar, of forming a bright metallic mirror. For this purpose some urine is evaporated. To the residue remaining after the addition of alcohol, water is added, and then an excess of nitrate of silver. The whole is then filtered, and the fluid resulting therefrom is saturated with ammonia. In order to render the test more certain, a small amount of nitrate of silver is now added, and the whole is then heated to 212° F. If a small amount of sugar only is present, a blue mirror of metallic silver is formed. If no sugar is present, the fluid is only clouded.

ART. 104.—*The Use of Sulphite of Soda in Chronic Cystitis.*

(*British Medical Journal*, September 19.)

It has been known for some time that the salts of sulphurous acid, when taken internally, possess the power of preserving healthy urine from putridity. Reasoning from this, Mr. L. Wilcox, late house-surgeon of King's College Hospital, supposed that they would have the same effect in those cases of chronic cystitis where, from the large secretion of mucus, the urine becomes putrid before it can be evacuated, and thus the walls of the bladder are kept in constant contact with a highly irritating fluid, and have no chance of regaining their normal condition. He therefore lately recommended and employed the sulphite of soda with very marked success in several cases of chronic cystitis in the hospital. The urine, from being intensely alkaline and horribly fetid, loaded with pus, and with difficulty retained for a quarter of an hour, shortly became clear, acid, without odor, and capable of being retained for two or three hours. The mineral acids had been tried in the same cases previous to using the sulphite, and with little benefit.

ART. 105.—*Note on Dr. Roberts's Method of Estimating Diabetic Sugar.*

By PHILIP J. HENSLEY, M.A., M.B.

(*St. Bartholomew's Hospital Reports*, vol. iii., and *British and Foreign Med.-Chir. Review*, October.)

Dr. Roberts's rule for estimating the amount of sugar in a specimen of diabetic urine is to ferment the urine by means of yeast, having first taken the specific gravity, and then, in twenty-four hours, taking the specific gravity again, when the fermentation has ceased, and the scum has subsided. The density after fermentation is subtracted from the density before fermentation, when the "density lost" is ascertained, and the number of degrees of "density lost" indicates as many grains of sugar per fluidounce. This method is virtually to estimate the amount of sugar by determining the weight of carbonic acid lost, instead of by actually collecting and measuring the carbonic acid, as is usually done. Mr. Hensley points out that the plan pursued by Dr. Roberts is open to several objections, and he shows, by a series of mathematical formulæ, the errors which it involves, but which, we may remark, are not very great, and do not much invalidate Dr. Roberts's rule, which, as Mr. Hensley admits, is extremely useful for ordinary purposes.

ART. 106.—*Peroxide of Hydrogen in Diabetes.*

(*Medical Times and Gazette*, October 24.)

There is perhaps no disease for which so many remedies have been tried, and for the most part ineffectually, as diabetes, and until very recently no medical treatment has had any marked effect in directly checking its most characteristic symptom—the excretion of an abundance of saccharine urine. It seems, how-

ever, that at last a remedy has been found, which, in the hands of several medical men, seems to act almost as a specific in the treatment of this disease. The remedy is the ethereal solution of peroxide of hydrogen, given two or three times a day, in doses of from half a drachm to two drachms in a wineglassful of water; and for the discovery of its therapeutic action we are indebted to the untiring zeal and energy of an Australian physician, Dr. Day, of Geelong, to whom the profession is also indebted for the guaiacum blood test (which is so sensitive as to give a decided reaction, even when spectrum analysis has failed to give any definite result), and for many important observations on the relations of ozone to disease. Dr. Day's views on the treatment of diabetes were, we believe, originally published in one of the numbers of the *Australian Medical Journal* for last year, and in that paper the case of a lady is reported in full, who, till the commencement of the treatment, was suffering from all the troubles of diabetes, as great thirst, frequent calls to relieve the bladder, and an enormous flow of highly saccharine urine. We are in possession of information that enables us to state that this lady is still in the enjoyment of excellent health, or, at all events, of perfect freedom from all the distressing symptoms of the disease. As a matter of precaution, however, she still takes a nightly dose of twenty minims. Other cases in Dr. Day's hands have been equally successful, and he has received letters from several medical men, telling him that their patients are deriving great benefit from the remedy.

ART. 107.—*On Adulteration of Sub-nitrate of Bismuth.*

By Professor R. REDWOOD.

(*Pharmaceutical Journal*, August, 1868.)

Dr. Redwood in this communication shows that sub-nitrate of bismuth is adulterated with phosphate of lime. The fact had previously been pointed out by M. Roussin, who found in one case as much as twenty-eight per cent. in a sample which presented the usual appearance, and answered to the ordinary tests of sub-nitrate of bismuth. Roussin's process is as follows for the detection: Dissolve equal quantities of the sub-nitrate and of tartaric acid slightly diluted with water, and add to this a strong solution of carbonate of potash until all effervescence has ceased and the liquid is rendered strongly alkaline. If the sub-nitrate of bismuth be pure, the liquid will be clear and will remain so even after it has been boiled; but if the sample of sub-nitrate submitted to the test should contain phosphate of lime, even to the extent of but one or two per cent., this will form a white precipitate, which will not dissolve with long-continued boiling. To these remarks Dr. Redwood adds that the phosphate of lime, even when present in large quantity, is not precipitated in the first instance after the addition of the carbonate of potash, but its precipitation is immediately effected by boiling the solution. From one sample he obtained eleven per cent. and from another forty per cent. of this adulterant. He thinks both specimens were of foreign manufacture.

ART. 108.—*On the Action of the Hyposulphite of Soda in Intermittents.*

By C. H. CHUBB, M.D., Cambridge, Mass.

(*American Journal of the Medical Sciences*, April.)

The hyposulphite of soda having recently obtained some reputation as a remedy in malarial diseases, Dr. Chubb was led to make a trial of it in a number of cases, with the following results:—

Of twenty-seven cases in which the remedy was administered, the paroxysms were arrested in twenty-five; in eleven of these the arrest was immediate, no paroxysm occurring after the treatment was instituted. These cases were nearly all of the tertian type. In nine cases one paroxysm, and in the remaining five, two or more paroxysms occurred after the use of the remedy was

commenced. These cases were mostly quotidians or double tertians, and the recurring paroxysms were invariably of mitigated severity. In no case was the remedy continued longer than a week, unless there was manifest improvement. In five of the cases relapses occurred; in three of these the disease was again arrested by the same remedy, and did not return, the treatment having been continued some time after the arrest of the chills; in the other two of the relapsing cases, sulphate of quinia was resorted to, to complete the cure. The subject of one of these cases was a child four years of age; the other case occurred in a tuberculous subject, where a hectic condition obtained, and in which several relapses have since occurred, notwithstanding the administration of quinia, iron, and cod-liver oil.

The concussions at which Dr. Chubb has arrived are, that the hyposulphites constitute a valuable addition to our resources in the treatment of malarial diseases, but that, in the majority of instances, they are less prompt than the preparations of cinchona. He considers them most appropriate in cases which resist the action of sulphate of quinia, or in which that remedy is contra-indicated; but he should hesitate to rely upon them in grave forms of pernicious remittent.

ART. 109.—*Liquid Oxysulphate of Iron.*

(*American Journal of the Medical Sciences*, October.)

Dr. J. R. Black extols (*Cincinnati Lancet and Observer*, March, 1868) the following preparation, the formula for which was handed to him five years ago by an old physician of Tennessee. R.—Ferri sulph. ʒij; acid. nitric. fʒiij; aq. destill. fʒiss. Rub the sulphate with the acid slowly in a mortar, gradually add the water after the sulphate is all dissolved, and filter through paper. Dose, from six to twelve drops in water or quassia infusion or syrup. Dr. B. says that this is the most palatable of all the ferruginous preparations.

ART. 110.—*A new Mode of Treatment of Plastic Croupy Angina, and of other Modifications of Diphtheria, by Balsam of Copaiba and Cubebs.*

By M. H. TRIDEAU.

(*British and Foreign Med.-Chir. Review*, October.)

The new method described in this pamphlet of treating diphtheria, a disease of late years so formidable and fatal, appears to be of a very promising kind. Should its success be confirmed by extended and varied experience, great will be the boon conferred, and great will be our indebtedness to the author who has introduced it.

We learn from M. Trideau that he was first led to give attention to the disease in question at a time that it raged with unusual severity, indeed to such an alarming degree as to incite the inhabitants of the districts, with the hope of arresting it, to undertake pilgrimages to a particular chapel, an event never before witnessed in the memory of man.

M. Trideau, reflecting on the nature of the malady as affecting the constitution generally, and keeping in mind the inefficacy and bad effects of local treatment, was induced, reasoning from analogy—that which he traced between diphtheria and general catarrhal affections, especially of the adynamic and gangrenous varieties—to make trial of balsams, medicines of acknowledged efficacy in catarrhal ailments; they alone, as he holds, having the property of drying up the sources of mucous secretions.

He first made trial of styrax with copaiba, but finding the former so often adulterated, he substituted for it cubebs—a medicine more readily taken, rapidly absorbed and diffused, and followed by no bad effects, but, on the contrary, by an improved appetite and digestion.

Of the results obtained he speaks with the most perfect confidence, stating

that after the experience of many years, and the treatment of more than 300 cases, he has been almost invariably successful; at least, when he had to contend with the malady in its first or second stage; and further, that the convalescence has been of short duration. He qualifies, however, his statements, by insisting on the necessity of distinguishing between simple croup (*le croup d'emblée*), and croup the consequence of pseudo-membranous angina—the latter so often baffling any remedial means.

His special mode of treatment, as described by him (we almost literally translate it) is the following:—

For adults half a tablespoonful of the syrup of copaiba every second hour, followed by a gramme (about fifteen grains) of freshly powdered cubebs in a tablespoonful of syrup, also every two hours, but in the intervals of the administration of the copaiba.

For infants the dose should be one half of the preceding; or six grammes of cubebs in the twenty-four hours in a teaspoonful of copaiba every two hours.

In some cases the cubebs may be given to the amount of twenty-four grammes a day to adults, and of twelve to infants.

After twenty-four hours it usually happens that the copaiba is no longer tolerated. Then it should be suspended. It should be discontinued also if the strength of the patients be much reduced, or should there arise a repugnance towards it. One, two, or three drops of laudanum are recommended to be added to the syrup, as likely to make it tolerated.

Commonly the malady yields to the treatment in three or four days. Nevertheless, it is sometimes prolonged to the seventh. Then, under the continued use of the balsam, the following symptoms not unfrequently occur: A sensation of diffused itching, an increase of the angina, and of febrile excitements, with an eruption simulating that of scarlatina, sometimes discrete, sometimes confluent, and resembling urticaria. This eruption never coexists with false membranes. These infallibly cease when it shows itself, if they have not disappeared before the treatment has been so much prolonged. The ecthyma is most frequent when the cubebs and copaiba are administered altogether.

As parts of the general treatment alimentation should never be neglected, and the use of coffee is recommended as favoring the recovery of strength. Moderate exercise should be taken; indeed, it is considered essential by the author, and that the patients should not be confined to bed except when the eruption has appeared, or there has been an entire prostration of strength. M. Trideau forewarns the not unfrequent occurrence of profound and prolonged sleep as the effect of the medication, it having been often observed by him in instances in which no laudanum has been administered; it should, he says, create no alarm.

Relative to the *rationale* of the treatment he is judiciously brief, not forgetting that in therapeutics our best guide, the only reliable one, is careful experience. The hypothesis which he advocates in accounting for the effects of the balsams is that of substitution. He thus reasons. The scarlatinaform eruption described which often occurs on the seventh or eighth day of the treatment is the infallible correlation of the disappearance of the false membranes. This phenomenon, so remarkable, readily intelligible by those who comprehend the physiological and pathological affinities which unite the mucous and cutaneous tissue, demonstrates the *modus operandi* of the balsamic treatment. In brief, it is evident that the whole of the recovery is under the influence of the medicines, as it was before under that of the malady: on the other hand, that the cure is accomplished by the way of a general substitution; adding, emphatically: Now this substitution can result only from the antagonism between a morbid exanthema and the medicinal exanthema. Consequently, it is specially requisite to produce the latter. The treatment is illustrated by twenty-six cases. In conclusion, the author refers to Dr. Garreau, Chief Surgeon of the Hospital of Lowal, in confirmation of the efficacy of the treatment in question.

In a subjoined note he calls attention to a remarkable peculiarity, that though the exanthema ordinarily only occur after a prolonged treatment, yet it occasionally appears sooner, after three or four days; nevertheless, whether

the treatment be restricted to the shorter period, or the doses be equally prolonged, *it is on the seventh or eighth day that the eruption is always produced.*

ART. 111.—On the Employment of Electricity as a Local Anæsthetic after Intra-Uterine Cauterization.¹

By Dr. VICTOR REVILLOUT.

(*L'Union Médicale*, No. 93, 1868.)

Dr. Revillout applies electricity to the treatment of diseases of women, and has found it fulfil numerous indications. The following is one of the chief of these :—

For the treatment of chronic metritis one of the most efficacious means is unquestionably cauterization of the uterine cavity, either with a stick of nitrate of silver, or, according to the advice of M. Courty, with sulphate of copper. About seven years ago Dr. Revillout treated a case of chronic metritis with considerable hypertrophy of the neck of the uterus, by introducing a stick of lunar caustic deeply into the cavity of the womb. A piece of this caustic broke off, and could not be withdrawn. The patient was placed in a salt bath. From this period the metritis gradually amended, and the neck of the uterus became soft and diminished in size. The woman, however, suffered from intense pain, which commenced some minutes after the introduction of the caustic into the womb. It was of the nature of cramp, and extended to the loins; it was apparently due in great part to the irregular contraction of the fibres of the uterus.

After this pain had continued for some time Dr. Revillout, for the purpose of diminishing the uterine cramp, employed the inductive electric current, so as to generalize the contractions and to cause the painful fibrillar spasm to cease. This plan succeeded.

In the same patient a second stick of lunar caustic was placed in the cavity of the uterus; Dr. Revillout then applied to the neck of the uterus a plug of charpie saturated with a strong solution of salt; this formed a very good conductor. A copper wire, covered by caoutchouc, and terminated by a metallic knob, served to place the plug of charpie in communication with one of the two wires of the electric apparatus; whilst the other conductor was placed on the hypogastric region. A very feeble current was passed for nearly three-quarters of an hour, and during the whole of this time the pain became very slight; it increased somewhat afterwards, but never became in the least comparable to what it had been during the first cauterization. The results as to cure were excellent.

Dr. Revillout then commenced to study the influence of the inductive current as a uterine anæsthetic.

The sensibility of the uterus varies much in different persons, and is developed more on the internal than on the external surface of the neck. Pain is scarcely manifested at the exact time of the cauterization either of the body of the uterus or only of the neck. When the caustic is removed, the pain comes on after an interval which may vary from some minutes to half an hour; then for a period equally variable it increases in intensity, and finally diminishes. With some women it is very severe; but with the majority it is tolerable, and with a few almost nil, although the contact of the metallic salt may have been prolonged for some time.

It is necessary to recognize these individual differences in order to render an account of the influence that electricity may have upon this kind of pain.

It is necessary also to guard against another cause of error. With some women very great sensibility of the uterus is due to a kind of neuralgia, which may cease during the treatment, and be replaced by the contrary condition, as is often observed in the alternate anæsthesia and hyperæsthesia of hysterical patients.

¹ Communicated to the Académie de Médecine.

According to Dr. Revillout's experience, the electric current always diminishes very markedly, and often annuls the uterine pains when applied immediately, and prolonged for a sufficient time after cauterization. It is not necessary for the current to be a strong one. In the normal condition of the uterus, the passage of a feeble current through the walls of the organ, or even along the mucous membrane of the vagina, is attended by no sensation. The introduction of the conductor into the vagina gives rise to no disagreeable impression, except it be a feeling of a slow and gradual contraction of the vulvo-vaginal canal, produced by electricity. The abdominal surface is sensible to electricity, but much less so than the hands, except it be the seat of neuralgia or hyperæsthesia. If the inducting pad be firmly pressed down over one of the ovaries, excessive hyperæsthesia is often set up in this region.

When, after cauterization, the employment of electricity has been deferred for some time until the uterus has become irritated and sensible to the passage of the current, the electric current loses its power as an anæsthetic, and sometimes causes a burning pain. Dr. Revillout, in instances of this kind, does not always carry out the electric plan of treatment, since electricity, though very powerful for preventing to a certain extent the acute pains which may be caused by intra-uterine cauterizations, is less efficacious in relieving them when they have been already manifested. It is therefore necessary to apply electrization as soon as possible after the cauterization. The duration and intensity of the process should be adapted to the nature and extent of the latter proceeding. Whenever there is any localized inflammatory action going on in the appendages of the uterus, or any engorgement at the fundus of either of the vaginal cul-de-sacs, cauterization, whether followed by electrization or not, must be abstained from until the disappearance of these phenomena. In gynecology we cannot act with too much prudence and patience.

ART. 112.—On a New Duck-bill Speculum.

By J. C. NOTT, M.D., New York.

(*American Journal of Medical Sciences*, October.)

The following are the advantages Dr. Nott claims for the instrument introduced to the profession:—

1. No instrument hitherto devised can be more easy to introduce.
2. It can be equally well used in the semi-prone position or on the back.
3. While elevating or depressing the perineum, its feet are so constructed as to expand the *ostium vaginae* to any desired extent.
4. It is perfectly self-retaining, without any arrangement external to the vagina.
5. In the semi-prone position it has the same advantage of atmospheric pressure as the lever speculum of Sims; and when the patient is on the back, by elevating the hips with a cushion or pillow, you have the same advantage of atmospheric pressure.
6. I use the instrument almost entirely with the patient on the back, because the position is more comfortable; because I can do everything I wish to do with more facility; and because the light from any window is more easily commanded. The concave surface of the speculum looking upwards, catches and throws the light fully on the anterior wall of the vagina and os uteri.
7. For all ordinary manipulations, where no cutting is required, instead of a table, any common bedstead or couch will command the light sufficiently from almost any window to give a good view. Baker Brown, in his operations for vesico-vaginal fistula, while using Sims's speculum, places the patient in the lithotomy position.
8. Like Sims's speculum, mine does not stretch the vagina *longitudinally*, and therefore allows the os uteri to be drawn down with a tenaculum near to the vulva.
9. The anterior wall of the vagina being left free, more space is afforded for operations.

10. With this speculum there are few operations that cannot be easily performed without an assistant.

ART. 113.—*A New Preparation of Lupuline.*

(*British Medical Journal*, October 3.)

Dr. Dyce Duckworth, medical tutor of St. Bartholomew's Hospital, says that it is certainly remarkable that lupuline has not found a place in the new *Pharmacopœia* of this country. It may, however, be said that it is not altogether ignored, inasmuch as it is expected to be present in the hops as ordinarily employed. It is not too much to assert, that the amount of it in different samples varies considerably; and it is certain that this peculiar powdery matter represents the active principles of the entire strobili in a concentrated form. During a recent series of pharmaceutical experiments with the powder, he was constantly struck with the remarkable valerian-like odor evolved from the different preparations; and he was interested to find, in the course of subsequent readings on the subject, that M. Personne had discovered valerianic acid in lupuline. In none of the *British Pharmacopœia* preparations of hop, except the extract, can it be said that the real strength of the drug is removed. The tincture made with proof spirit, which does not thoroughly exhaust the active parts of the scales of lupuline, and the watery infusion, can but inadequately represent the virtues of this medicine. He recommends the following formula: Lupuline, 2 ozs.; spirit. ammon. arom., a pint. Macerate for seven days, agitating occasionally; then filter and add sufficient of the menstruum to make up to a pint. The dose of this is from twenty minims to one fluidrachm. He proposes to call it "tinctura lupulinæ ammoniata." He considers this preparation of the hop as the best we at present possess. According to Christison, the dose of tinctura lupuli should be from one fluidounce to one fluidounce and a half to produce any hypnotic effect; the ordinary dose consists of as many drachms. Dr. Ives, of New York, states that the tincture of lupuline is an effectual hypnotic in restlessness the result of nervous irritability, and in delirium tremens. Some advantage, too, is derived from the presence of ammonia in considerable quantity, and this whether the preparation be exhibited as a hypnotic, or as a tonic combination of bitter and ammonia.

ART. 114.—*On Prolonged Hypodermic Injection.*¹

By J. HARRISON, M.R.C.S.

(*British Medical Journal*, August 22.)

The author narrated a case where severe sickness had been present during two months, neither food nor medicine being retained. [The illness was imagined by the patient to have commenced with conception. Her friends, however, attributed it to a cold caught during menstruation.] The os uteri was swollen. Sedative enemata and vaginal injections were tried without avail. Hypodermic injection was then commenced. One grain of acetate of morphia was dissolved in six minims of water, and one minim was injected three times a day; and at once the vomiting abated. The strength was increased until fourteen minims were used twice a day; and the injections were continued from April 13th to July 1st. By means of ergot and drastics, the patient aborted; nevertheless, the gastric irritation continued. On July 9th the injection was reduced to ten minims once a day. When this was intermitted the vomiting recurred. On July 20th the injections were discontinued, as the catamenia returned. The patient was reluctant to leave off the injections. The skin of the arm was pierced two hundred and sixty times, with very slight unpleasant effect. Suppuration did not occur. A slight disorder of the liver yielded readily to treatment.

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

Dr. Routh wished to know whether, amongst all the remedies that had been used, belladonna had been tried; for he had found that large doses of the tincture (twenty to thirty minims) every three or four hours had been of great service in arresting vomiting. In one case, a young woman, after seduction, vomited after every kind of food. Every sort of remedy was tried without success, till Dr. Routh applied Dr. Chapman's ice-bag to the spine for an hour in the morning, and again at night, when the sickness passed away entirely, and she went to the full term well.

Dr. Greenhalgh mentioned the case of a lady one or two months advanced in pregnancy, who came under the care of Dr. West for sickness. Dr. West advised abortion to be produced, but which was not agreed to. She had been kept alive by nutrient enemata. In this case the sickness was stopped by belladonna. In cancerous vomiting he had found belladonna, or atropia, or morphia, of great use administered *per vaginam*. In the use of vaginal remedies it is very proper to see previously what is the condition of the uterus, as, if there be no abrasion of the mucous membrane, there is no risk; but, if the surface be abraded, the risk is considerable. A lady was in this manner nearly poisoned by one-sixteenth of a grain of atropia.

Mr. Harrison said that, in his case, belladonna had been used on spongopiline externally, and also as a vaginal application.

Dr. Hall said that he knew a case nearly terminate fatally by a prescriber writing so badly that one-sixteenth was mistaken for seven-sixteenths.

Sir C. Locock questioned the justifiability of bringing on premature labor for sickness in advanced pregnancy. For his own part, he was against the practice; for he remembered a case in which profuse hemorrhage occurred after the attempt, and the patient died. No patient had, so far as he knew, died after sickness in pregnancy. Ten grains of calomel would often stop the most violent sickness; and chloroform, given almost to insensibility, was very useful.

Dr. Priestley mentioned a case in which, if abortion had been used, the patient might have been saved. A lady had suffered from vomiting for five or six months, was constantly tossing about, and was much exhausted by it. Every remedy had been tried without success. There was a consultation with regard to abortion. The night previously a grain of opium had been given. The opinion was, that, if the operation were performed, the patient would sink. Two more grains of opium were administered; and the patient became comatose, and died from narcotism. The question arose whether, if abortion had been brought on, the patient might not have been saved. Dr. West's opinion was that abortion in some cases should be procured.

Dr. Marion Sims gave the following cases: A lady conceived in November, and vomited till February. Dr. Campbell and others in Paris had been consulted. She aborted, and died the same night. Another had been operated on for vaginismus. She conceived in May, and vomited till July. Her mother had vomited throughout all her pregnancies, and opposed any operative interference. On August 17th she rose to satisfy a call of nature; and, as she got out of bed, she fainted and died in two hours. Two lives might have been saved if the operation had been performed sooner. In another case, in which Trousseau gave as his opinion that abortion should be procured, a dead fœtus came away, and the woman's life was saved.

Dr. Beatty never saw a death occur from sickness of pregnancy. He would not hesitate to produce abortion, if he saw a patient dying. He would not think any one was justified in using such a dangerous remedy as atropia when belladonna could be used.

ART. 115.—*Subcutaneous Injection of Morphia in Obstetric Practice.*

By Dr. KORMANN.

(*Monatsschrift für Geburtsh.*, August; *Medical Times and Gazette*, October 10.)

In an interesting paper read to the Leipzig Obstetrical Society, Dr. Kormann stated that he had found this a very useful practice under the following circum-

stances, viz.: 1. During painful dilatation and expulsive periods, especially in primiparæ and in narrow pelves. 2. In spasmodic pains. 3. In painful complications of the process of labor in general. 4. In severe after-pains. It is in the first category of cases that he has especially employed it, injecting one or both thighs.

ART. 116.—*Air of Hospitals, in Reference chiefly to the Presence of Microscopic Germs.*

By E. LUND, F.R.C.S.

(*British Medical Journal*, August 22.)

In a most valuable paper read at the 36th annual meeting of the British Medical Association, the author detailed some interesting experiments which he had made on the air in one of the surgical wards of the Manchester Royal Infirmary. The ward in which the experiments were conducted contained four beds, and had a cubic capacity of about 5400 feet. A fluidounce of distilled water was placed in a pint stoppered glass bottle; and, by removing the stopper, raising the bottle sharply through the air, reclining and quickly shaking it, the water and the air were intimately mixed. This process being repeated fully 500 times, the water became opaque, and deposited a sediment, which was examined under the microscope. After forty-eight hours there were distinct evidences of the presence of organic life, and on the fifth day there were found in it numerous actively-moving vorticillæ, with abundance of monads in ceaseless motion. From this result Mr. Lund inferred that, if the experiment were repeated under more varying circumstances, it might be shown that the presence in air of microscopic organic germs was a constant condition, and easily detectable.

ART. 117.—*On the Importance of Obtaining correct Comparative Observations in Estimating the Influence of Light in Health and Disease; illustrated by the Actinograph.*¹

By HORACE SWETE, Esq.

(*British Medical Journal*, August 22.)

After discussing the importance of light to vegetables and animals, and showing the threefold division of light into visual, actinic, and calorific, Mr. Swete exhibited and described an instrument he had constructed, in which a sensitized paper-ribbon was passed by a simple clockwork movement by a chink of light one-tenth of an inch in width, at the rate of five minutes for each tenth; thus the amount of actinism present in each hour was represented by a shaded tape of little more than an inch in length, and compared with a test standard of tint. The author exhibited actinograms produced by the apparatus, and showed the importance of constructing model lodging-houses and dwellings for the poor with sufficient light, so as not to sacrifice the amount of actinism necessary for health to the lattice-panes and architectural windows of the darker ages; and concluded his paper by stating that he would spare no pains to perfect his instrument during the remainder of the year, hoping that some of the associates would unite with him in taking coincident observations in various localities.

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

ART. 118.—*Therapeutic Uses of Oxygen.*

By M. CONSTANTIN PAUL.

(Bulletin Général de Thérapeutique, August 15.)

M. Constantin Paul sums up a paper on this subject as follows:—

1. Oxygen is not a poisonous gas; and thirty litres of this gas in the pure state can be inhaled for several days without any accident. It is only at the end of two or three weeks that fever is produced.

2. Oxygen is a valuable resource in cases of asphyxia, especially when this is due to accidental suffocation. It may be useful in cases of strangulation, hanging, and drowning, as well as in poisoning by noxious gases and vapors.

3. Oxygen is a valuable remedy in nervous asthma. In humid asthma—*i. e.*, the catarrh which complicates emphysema—it will also be of good service, provided its use be persisted in.

4. In phthisis, oxygen has not given such good results as were expected. It produces immediate relief, and this is very valuable; but fresh exacerbations follow, more intense, perhaps, than the first. It can, then, be regarded only as a palliative.

5. In albuminuria, oxygen may become a valuable remedy, if it be found, by further observation, to cause the albumen to disappear from the urine, as was observed in a case by Eckart, and in one under the author's care. In any case, the remedy should be tried.

6. The same remark is applicable to diabetes.

7. In local gangrene, if there be not obliteration of the arteries, oxygen is a sovereign remedy.

ART. 119.—*On the Action, Use, and Value of Oxygen in the Treatment of various Diseases.*

By S. B. BIRCH, M. D., M.R.C.P.

In his work "On Oxygen" Dr. Birch maintains that as atmospheric air is provided for us by Infinite Wisdom, as the perfect respiratory medium physiologically considered, so physiological experiments point to its physiological relations, and materially assist towards a comprehensive view of artificially-prepared oxygen as a curative agent. But, on the other hand, artificially-prepared oxygen can only be thoroughly tested in its own plane; being a remedy demanded by perverted physiology, its true value can only be understood through pathology. Thus it can be clinically tested by its action through the lungs, stomach, and skin; but in testing it we must recognize practically—

1. Heat, polarization, motive power, associated with the oxygen atom.

2. The same forces in the living organism.

3. The mutual relations of these forces, inorganic or organic, in connection with *individual constitution*, and various perversions from the healthy standard, as well as under medicinal modification.

ART. 120.—*Disinfectants and Deodorizers.*

By M. VERSTRAEL.

(British Medical Journal, October 10.)

M. Verstrael, in a paper read before the Academy of Sciences, of which the *Chemical News* gives an abstract, proposes to attain the conditions required of disinfectants by the following processes:—

1. To decompose the sulphide and carbonates of ammonium, the chlorides are employed, either of iron, zinc, or preferably manganese. Sulphates are absolutely proscribed, for the reason that the putrefying matters react on the sulphate of ammonia formed by double decomposition, the final result being the

evolution of sulphuretted hydrogen, so that after a little time it is necessary to disinfect a second time. The chloride of manganese proposed as a disinfectant would be obtained from the chlorine residues of manufactories, a product which is stated to be valueless. The residues contain too much hydrochloric acid to be immediately available; the acid is neutralized either by the oxides of iron or zinc, or by dolomite. By this saturation of hydrochloric acid with lime and magnesia, the value of the product as a manure is greatly enhanced. Experiments on a large scale showed the product to be very rich in nitrogen and in phosphoric acid, and the fluid after this treatment was found to contain no phosphoric acid. Manganese, as well as magnesia, has been demonstrated by the recent works of M. Peligot to be easily assimilated by plants. To render the action of the chloride of manganese still more efficacious, 5 litres of chloride of lime solution of 12° are added to 100 litres of the manganese solution.

2. Notwithstanding the value of the disinfectant thus prepared, metallic salts by themselves can effect no complete and permanent disinfection; no influence will be exerted upon the offensive odor, *sui generis*, of the refuse matter. The antiseptic agent introduced for this purpose is tar, solidified by admixture of cinders, deprived of sulphurous compounds by exposure to the air for fifteen or eighteen months. In this mixture are contained a considerable quantity of sulphate of alumina, 15 or 20 per cent. of finely divided carbon, 50 or 60 per cent. of nitrogen, and protosulphate of iron and silica in small quantity. In the place of the solidified tar, the heavy oil of tar residues has been employed with equal success. Lastly, to clarify refuse water, a solution of impure sulphate of alumina, employed in the dose of a kilogramme per cubic metre, has been found to give very remarkable results; this solution serves to clarify the liquid, and to cause the deposition of the solid matter. A cesspool of 20 cubic metres, in Rue des Jeuneurs, was treated with 650 kilogrammes of manganese and 30 kilogrammes of chloride of lime liquid, then 180 kilogrammes of the aluminous powder with tar. After the liquid had been agitated and allowed half an hour's rest, it was clear and inodorous. The sanitary inspectors and other critics who witnessed the experiment testified that the matters were completely disinfected. After the liquid had been poured off into the sewer, the atmosphere of the receptacle was tested by the lowering of a light, after which two workmen descended, who found no other odor than a slight one of benzol.

ART. 121.—*On the Use of Bromine in the Treatment of Hospital Gangrene.*

By JOHN WM. BLIGH, M. D., Late Acting Assistant-Surgeon U. S. Army.
(*The Lancet*, August 29.)

During the late civil war in America, hospital gangrene, especially during the summer months, prevailed to an alarming extent. The deaths from this cause alone were, in some sections of the U. S. army, truly appalling, until the use of bromine as a treatment was introduced by Surgeon Middleton Goldsmith, U. S. Volunteers, in charge of the Jefferson Hospital, Jeffersonville, Indiana. After this time no deaths attributable solely to this cause occurred, when properly treated by it.

The mode of applying the bromine is substantially as follows:—

1. The wound must be *thoroughly* cleansed of all gangrenous slough by means of a wooden spatula or blunt scalpel, until the firm, healthy tissues beneath are reached; and the parts dried as perfectly as possible with tow. To do this effectually, the patient is first placed under the influence of some anæsthetic, a mixture of equal parts of chloroform and ether being generally preferred. The ether is used to counteract, by its stimulating properties, the depressing effects of the chloroform; whilst the rapidity of action of the latter is maintained. Without first *thoroughly* clearing away the diffuent slough, bromine, powerful as it is, is unable to penetrate to the healthy tissues. To want of this very necessary precaution Dr. Bligh believes all the failures attributed to it are to be ascribed.

2. Having thus prepared the wound, pure bromine is applied by means of swabs of lint attached to the end of small sticks, say eight or ten inches in length: great care being taken to touch every portion of gangrenous surface. The bromine, being extremely volatile, penetrates every sinus, etc., which could not be reached by any of the other liquid or solid escharotics in use. The bed or operating table upon which this application is performed must be placed in such a position that the fumes, which are extremely irritating and annoying, will be carried off by a draught of air in a contrary direction from that in which the operator and his assistants are.

3. After the application, the wound should be stuffed with lint damped in a solution of bromine made with water and bromide of potassium, and then wrapped up in oiled silk. After the lapse of a few hours linseed poultices are applied, to facilitate the removal of the eschar, which soon peels off, as the skin from a boiled potato, leaving healthy rose-colored granulations below. The wound is then treated in the ordinary way, special care, however, being taken to keep the parts clean, and, by means of dressings saturated in some weak disinfecting solution, to prevent the absorption of fresh virus.

4. During the progress of the disease the patient must be supported by the free use of whiskey, by quinine, etc.; but beyond the use of stimulants and tonics, and endeavoring to keep the secretions and excretions in as healthy a state as possible, very little internal treatment is required, as the constitutional symptoms are merely secondary, and cease immediately on the successful combating of the local trouble. In a few hours after a thorough application, they usually vanish as it were by magic; and instead of the patient being the disheartened, despairing being he was previously, he will be a hopeful man, sanguine of recovery.

When on duty in the 15th Corps Field Hospital, Dr. Bligh was obliged on one or two occasions to resort to the use of nitric acid when bromine was not to be obtained; but found it wanting in the very penetrating and escharotic effects of the latter—two properties which render bromine so specially adapted. Although applied in a similar manner, the results were not nearly so satisfactory, very frequent applications being required, and the patient remaining under treatment for a much longer period.

ART. 122.—*On the Use of the Bromide of Potassium in the Treatment of some Nervous Affections.*¹

By JAMES TURNBULL, M. D., Physician to the Liverpool Royal Infirmary.

(*Liverpool Medical and Surgical Reports*, October.)

The most important of the effects produced by bromide of potassium are, Dr. Turnbull writes, the following. 1. The alterative or absorbent action it sometimes exerts. 2. Its power of diminishing sensation, and causing dryness of the throat and neighboring parts, an effect which Dr. Gibb found to be more decidedly induced by bromide of ammonium, and led him to try it as a remedy in a hooping-cough. This power, which may be partly due to the local action of the bromides, but is no doubt chiefly owing to the sedative effect produced on the nervous centres through absorption, has likewise been turned to account in the treatment of spasmodic asthma. 3. In large doses, bromide of potassium produces sleepiness; and this is one of its effects to which Dr. Turnbull would more particularly direct attention, as it furnishes a valuable means for the treatment of some nervous affections. 4. It has a sedative influence on the sexual organs. 5. It has been found a valuable remedy in epilepsy. 6. In medium doses, continued for long periods, it produces the remarkable sedative effects which have been described by Dr. Bazire, the translator of Trousseau's Lectures.

¹ Abstract of a paper read to the Liverpool Medical Society.

The therapeutical use of the bromide of potassium, which Dr. Turnbull wishes more particularly to notice, is the power which it has of producing sleep when administered in full doses.

When sleep is prevented by pain, arising from some abnormal physical condition of the body, opium in some of its various forms is the grand remedy; and, if we except chloroform, it has no rival as a sleep-inducing agent in this class of cases; but there are others where the want of sleep arises from mental rather than from physical pain, or from trifling causes exciting a morbidly sensitive nervous system. In the latter, opium often prevents, instead of inducing sleep, and causes its after effects in an aggravated degree. Dr. Turnbull has tested the bromide of potassium in some cases of the latter description, and being convinced that it is a remedy of power, and one the value of which is scarcely yet generally known by medical men, he briefly gives some details of a few cases of this description in which he has used it with advantage.

Brown-Séquard, the author says, usually gave to adults a dose of thirty grains of the salt a quarter of an hour before the last meal, and a second dose of from thirty to fifty at bedtime. In cases in which, without any nervous complaint, there is sleeplessness, owing to some cause of cerebral excitement, as well as in all neuroses, excepting hydrophobia, tetanus, very severe cases of delirium tremens, and some forms of insanity, sleep is almost always induced by that remedy.

ART. 123.—*Action of Bromide of Potassium.*

By Dr. PLETGER.

(*Deutsche Klinik*, No. 10, 1868; and *American Journal of the Medical Sciences*, October.)

According to Dr. Pletger's observations on the human organism, bromide of potassium weakens the energy of the heart's action, and reduces the frequency of its beats, so that the pulse is frequently as low as fifty. Large doses of the salt produce somnolency, loss of memory, and mental depression, and in some cases imbecility. These symptoms quickly disappear after suspension of the remedy or a reduction to smaller quantities. The continued administration of large doses causes more or less incapacity for voluntary movements, or a disinclination to perform them. The subject reels and stumbles when walking, whilst in other instances there is muscular debility of the arms without sensations of vertigo and disturbance of the equilibrium. The motor nerves seem to be paralyzed through the action of the bromide. The bodily temperature is lowered. The action of the salt upon the digestive organs is manifested by a mild gastric catarrh with a tendency to vomiting, an obstinate constipation after large doses, and redness of the oral and pharyngeal mucous membrane; cough and slight catarrh of the upper air-passages are sometimes produced, and, after doses of from one to two drachms, some dyspnoea. Against abnormal irritability of the genital system the bromide acts with undoubted efficacy; as a remedy for spasm and increased reflex action of the nervous centres, it excels all other means.

ART. 124.—*The Non-Efficacy of Bromide of Potash in Chordee.*

By W. F. MUNROE, M.D., Physician to the Boston Dispensary.

(*New York Medical Journal*, July, 1868.)

As there appears to be a tendency, at the present time, to consider the bromide of potash a specific in nearly every stage of nearly every disease, Dr. Munroe has thought that a little negative evidence might not be unseasonable.

Nearly all the works upon venereal diseases recommend its use in chordee, and Dr. Munroe has used it persistently, with such unsatisfactory results, that he has abandoned its use, unless specially indicated by an unnatural nervous condition of the patient. The list of cases of which he has preserved the

records comprises thirty-six; in twenty-nine the bromide appeared to have no effect; in four its effects were exceedingly doubtful; in three cases only were the results of its administration at all satisfactory; in one of these Dr. Munroe considered that the relief was due more to the effect of the drug upon the overstrung nerves of the patient, than to its anaphrodisiac properties.

In all the cases, hot water lotions at night were ordered unless contra-indicated. None of the usual recommendations as to sleeping upon the side, upon a hard bed, etc. etc., were neglected.

ART. 125.—*Use of Capsicum in Delirium Tremens.*

By R. D. LYONS, M.B.

(*British Medical Journal*, November 7.)

Dr. Lyons sums up his experience of the drug as follows: 1. Capsicum is a valuable and reliable drug when opium fails, or is, for any cause, contra-indicated. 2. It is a safe drug for general employment in delirium tremens, and as such, may be confidently recommended to the country practitioner for general employment. 3. It is not open to the objection which attaches to the continued use of opium, which, when it fails to tranquillize and produce sleep, adds to the state of excitement; and, if pursued beyond a certain limit, kills, as it has undoubtedly done in numerous instances, by suddenly induced opium-coma. 4. In some few instances, Dr. Lyon informs us, he has employed capsicum in the delirium of fever, when opium had failed to induce sleep, and with marked success in certain cases.

In a very considerable number of cases, Dr. Lyons has found that a single dose of capsicum—twenty to thirty grains, according to the urgency of the symptoms—suffices to produce rest, sleep, and consciousness.

ART. 126.—*Oxide of Zinc as a Therapeutic Agent.*

By J. WARING-CURRAN, L.K., & Q.C.P.I.

(*The Lancet*, October 24.)

Oxide of zinc, Dr. Waring-Curran writes, will be found of great value in the earlier stages of phthisis. It seems to steady the nervous system, and act as a sedative to the wandering pains and general depression which exist at the commencement of the complaint. In the later stages, where profuse sweating and colliquative diarrhoea harass the patient and quickly lower the vital capacity, its very wonderful effect of checking the latter and arresting the former is best learnt from the lips of the sufferer himself. Dr. Curran prescribes it in two-grain doses, with extract of conium, in the form of pill, giving three in the day to begin with, and gradually increasing the dose every week or so, until fabulous quantities of the oxide are taken daily.

Epilepsy.—The oxide of zinc in pill and bromide of potassium in mixture, form a method of treatment Dr. W. Curran considers not to be equalled, when assisted by the occasional application of Chapman's spinal ice-bag, in cases of epilepsy. The oxide of zinc he has administered alone, giving camphor julep as a placebo, in some severe forms of the disease; and although under its use the number of attacks became less, and the general health of the patient improved, he did not obtain the same satisfactory results as when combined with the bromide. The bromide he has also exhibited *per se*, but experience has taught that the one is essential to the other, and that the two drugs combined form an indispensable method of treatment, by steadying the system generally, equalizing the circulation of the nervous centres, and thus warding off the attacks of the most distressing complaint which comes within our province to treat.

In *Spermatorrhoea* and *Gleet* Dr. Waring-Curran finds it a drug of the greatest importance. In the former, I have given it during the day, with some camphor and conium at bedtime, with the happiest results. Under its administration

in the latter the mucous membrane appears to take on healthy action, and we get speedy riddance of a class of patients who hitherto gave no little trouble to their attendant, whilst in many instances they themselves become hypochondriacs.

Chronic Diarrhœa and *Dysentery* are best and most speedily treated by the oxide of zinc.

In *Hysteria* the author remarked it a more reliable and efficacious preparation than the over-estimated valerianate.

In *Delirium Tremens*, when the morphia or cannabis has done its duty, the after-treatment by zinc is something to be observed rather than described; the constant dread, restlessness, and disturbed sleep are quickly overcome by the bracing agency of the drug.

When commencing the administration of oxide of zinc, care must be taken not to give it upon an empty stomach, as it produces a nausea which gives the patient a dislike to the drug, and an antipathy difficult to overcome by subsequent reasoning.

ART. 127.—*Ophthalmoscopic Signs of Constitutional Disease.*¹

By ERNEST HART, Ophthalmic Surgeon St. Mary's Hospital.

(*British Medical Journal*, August 8.)

In this highly interesting paper Mr. Hart classified the ophthalmoscopic signs of constitutional disease as follows: 1. Amaurosis with appreciable lesions at fundus of eye. *a.* From intra-cranial lesions: cerebral tumors, meningitis, encephalitis, and ramollissement, cerebral apoplexy, phlebitis of sinuses, hydrocephalus, concussion and compression, lesion of cerebellum, changes in insanity. *b.* From diseases of spinal cord and general nervous system: myelitis, general progressive paralysis, locomotor ataxy, epilepsy, chorea, cerebro-spinal meningitis. *c.* Disturbances in the circulatory system: embolism, metastatic choroiditis, hemorrhage, leukæmia, heart-disease. *d.* Syphilis. *e.* Tuberculosis. *f.* Disturbances in urinary system: albuminuria, diabetes, oxaluria. *g.* From the action of certain medicinal and other agents: tobacco, alcohol, opium, lead. *h.* From disorders of the female sexual organs: pregnancy, hysteria, suppression of menses. *i.* During acute diseases: diphtheria, intermittent fever, cholera. 2. Sympathetic amaurosis, with no appreciable morbid changes at fundus of eye: sympathetic functional or dynamic amaurosis. Mr. Hart enumerated the different characters of the most striking of these forms of change; of which the time allotted only allowed him, on this occasion, to give a brief outline. The object of the paper was to illustrate the value of the ophthalmoscope—by the light of recent researches and of over two thousand observations of his own—as an instrument of diagnosis, and of clinical and pathological research.

ART. 128.—*Veratrum Viride* in Pericarditis.

By J. WARING-CURRAN, L.K.Q.C.P.I.

(*The Practitioner*, August.)

Dr. J. Waring-Curran states that he has found this drug of the highest value in the treatment of pericarditis. The extract made by inspissating the juice of the root is the preparation he has invariably employed, prescribing it in two-grain doses, with one grain of calomel in the form of pill, every two hours, and carefully watching its effects. Its power of reducing the frequency of the pulse, and of increasing the renal and hepatic secretions, lead him to regard the *veratrum viride* as almost a specific for pericarditis. In cases of acute rheumatism in which pericardial symptoms began to be manifest, he feels

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association, held in Oxford August 4th, 5th, 6th, and 7th.

assured "that the mischief was baffled by the early and careful exhibition of ten-drop doses of the tincture of *veratrum viride* in the asthmatic mixture."

ART. 129.—*On the Physiological and Therapeutical Action of Veratrum Viride.*

By M. OULMONT.

(*Bull. de Thérap.*, February, 1868; *New York Medical Journal*, September.)

M. Oulmont confirms by his experiments the conclusions of Mr. Scattergood of Philadelphia, that the physiological effects of *veratrum viride* are not due exclusively or mainly to the *veratria* it contains. *Veratria* causes first, nausea, vomiting, and diarrhœa; second, slowing of the pulse and respiration, with diminution of the temperature, much less marked, however, than that produced by *veratrum*; third, excitement of the muscular system, showing itself by rigidity, spasms, and tetanic convulsions.

Veratrum viride and *veratrum album*, both affect the digestive, the circulatory, and the respiratory systems, in the same manner up to a certain point with *veratria*; they differ from it in the fact that they never produce any of the phenomena on the part of the muscular system.

Veratrum album differs from *veratrum viride*, in the extreme intensity of its action on the digestive system, shown by the violence and long continuance of the vomiting and purging, and by the well-marked inflammation of the mucous coat of the intestinal canal, caused by it. Second, by the rapidity with which it produces its effects; serious symptoms follow each other without interruption, and the animal dies in from one to three hours. The dose of *veratrum album* which has caused death, has generally been less by one-half than that of *veratrum viride*, necessary to produce to same effect. *Veratrum viride* is not only safer but more uniform in its action.

Dr. Oulmont procured some resin of *veratrum viride*, entirely freed from *veratria* by repeated washings with acidulated water. A portion of this was injected into the thigh of an active rabbit. Before the experiment the pulse was 230, the respiration 92, and the temperature $39\frac{1}{2}^{\circ}$ C. In 1 hour and 35 minutes the pulse had fallen to 200, the temperature to 34° C. The animal was exceedingly feeble, and lay upon its side; it could neither stand or walk. The breathing was difficult and sighing; thirty-five minutes afterward the pulse was 140, the temperature 33° . The respiration was sometimes hurried, sometimes very slow (nine per minute). After an interval of an hour and ten minutes the pulse had risen to 180; respiration 24, temperature $32\frac{3}{4}^{\circ}$. The breathing was easier, but the animal lay on his side without motion; shaking him caused slight convulsive motions, during which he seemed about to die; he could neither sustain himself upon his paws nor his belly, but fell over on his side. Four hours and a half later the condition was the same, but the temperature had risen to $34\frac{1}{2}^{\circ}$. Eighteen hours afterwards, nearly twenty-six hours after the first injection of the poison, the animal seemed dying; the beat of the heart was feeble; pulse 120, respiration 36, temperature $26\frac{1}{4}^{\circ}$ (a fall of $13\frac{1}{2}^{\circ}$ C.). The animal was brought near a stove, wrapped in warm covering, and gradually recovered.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 130.—*On the Treatment of Secondary and Tertiary Syphilis by Hypodermic Injection of the Iodide of Mercury and Potassium.*¹

By M. AIMÉ MARTIN.

(*Gazette des Hôpitaux*, No. 107, 1868.)

M. Aimé Martin, though an advocate for mercurial frictions as a very useful, and in some instances the only successful plan of treatment for obstinate secondary syphilitic affections, still recognizes the objection to them, that a constant attention and great care is required on the part of the patient which it is not always easy to obtain. For this reason he reserves the friction treatment for exceptionally severe cases, and applies in ordinary cases a mode of treatment which can be more readily carried out. Struck by the immediate relief following the introduction of morphia into the subcutaneous tissues, M. Martin was led to inquire whether mercury, which is generally so ill tolerated by the stomach, and so badly absorbed, could not be administered in a similar way. The preparation he decided to employ was the iodide of mercury and potassium, procured in the following manner. A solution was made of four centimetres of biniodide of mercury in one gramme of distilled water, the salt being rendered soluble by the addition of iodide of potassium. The solution thus prepared is transparent, of a lemon-yellow color, and with a slightly alkaline reaction.

The first patient upon whom hypodermic injections of this solution were tried was a man aged thirty years, who had had a chancre twenty-seven months before, which was followed by secondary symptoms. These had been treated by mercury administered internally, but with no good results. His trunk and limbs were covered by a papular eruption, the tonsils, tongue, gum, and oral surfaces of the cheeks were extensively and deeply ulcerated, the margin of the anus was surrounded by enormous mucous tubercles, and the inguinal and posterior cervical glands were much engorged. The tissues were pale and the muscles flaccid; there was a total loss of appetite, and an intolerance on the part of the stomach to mercurial remedies. On January 10, 1868, half a gramme of the solution was injected under the skin of the chest, near the middle of the sternum. The operation caused a sharp, smarting pain, which lasted for four or five hours, but was followed by no inflammatory action. After this the state of the patient became much improved. In the course of eighteen days the papular eruption diminished, the mucous tubercles disappeared, and the cervical and inguinal glands became smaller. Another injection at the same spot of two centigrammes of the biniodide on January 18, produced an unexpectedly favorable result. In the course of the next fifteen days all the bad symptoms described above almost completely disappeared. The patient was then submitted to a tonic treatment, and afterwards for a slight relapse of ulceration of the tonsils and the cutaneous papules, was ordered to take iodide of potassium and Von Swieten's solution internally. These remedies were well tolerated by the stomach, and caused a rapid disappearance of the lesions which were previously so tenacious.

Two other cases are reported in which severe general syphilitic affections were cured or much relieved by the hypodermic injection of the biniodide of

¹ Paper read before the Société de Médecine of Paris.

mercury. In the second case, that of a woman aged twenty-six years, an injection of two centigrammes of the biniodide, at the inner and middle part of the left fore-arm, set up acute inflammation, which resulted in the formation of an eschar of the size of a twenty-centime piece. In the third case, two centigrammes of the biniodide were injected hypodermically over the middle part of the left trapezius muscle of a young man aged twenty-three. Acute pain was caused, but this soon ceased, and was not followed by any inflammation at the seat of puncture.

ART. 131.—On those Secretions which are, and on those which are not, the Means of communicating Constitutional Syphilis.¹

By HENRY LEE, F.R.C.S.

(*The Lancet*, August 15.)

The author related typical cases of two distinct kinds of syphilitic infection; and dwelt upon the test of inoculation as distinguishing the two varieties. It was not every pustule, he observed, which was to be considered the true specific pustule; for he related the case, and showed the drawing, of a well-developed pustule at the expiration of fourteen days, produced by inoculating some simple pus from a case of incision of the knee-joint. Mr. Lee then referred to his original observations on the inoculation of matter from indurated sores. The conclusions at which he had come were that the secretions from indurated sores under irritation were sometimes inoculable; but that the inoculations differed from those performed from the secretions of suppurating sores. He next referred to the confusion that existed in the writings of those who professed to have given their attention to the subject; and instanced the report made by the Committee on Venereal Diseases last year to the Secretary of State. After examining sixty-four witnesses, and producing a report extending over upwards of 600 pages, the committee came to the conclusion that no one could tell whether a given local affection would contaminate the system or not. The committee described a local sore which did not infect the system, and a simple sore which did; but they drew no distinction between these two diseases, and the author of the paper thought that it was simply begging the question to say that a sore was local because it did not infect the constitution, and that it did not infect the constitution because it was local. A patient would find out for himself that a sore was syphilitic when he had secondary symptoms; and this was all the committee considered that a medical man could do. Mr. Lee, on the contrary, recognized two distinct kinds of disease, each of which followed its definite laws. There had been no instance, he observed, in which the inoculation of the secretion of the specific pustule, or the sore which resulted from this, had given rise to constitutional syphilis; and he explained the confusion that had arisen upon this subject by a quotation from Professor Owre, in which it is stated that, in the experiments upon syphilization, no such care was taken in the selection of the matter as would appear from the printed statements, but that both kinds of matter were used indiscriminately. The author's conclusions were: 1. That the infecting form of syphilis is communicated by the secretions of both primary and secondary syphilitic disease. 2. That the secretion of any other specific disease (including the secretion of specific pustule and the suppurating sore which results from it) has no power of imparting constitutional syphilis. 3. That the natural secretions of glands in syphilitic subjects, when those glands are not themselves specifically diseased, have no power of imparting constitutional syphilis.

As this is a subject of general interest, we append the remarks made by the President of the Section, Mr. Paget: "Mr. Lee's paper seems to me," said he, "to offer a fair explanation of some of those cases in which secondary syphilitic affections have followed, and have appeared to be the consequences of, soft

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

chancre. Such cases have occurred to most surgeons; and yet so rarely in comparison with those in which secondary symptoms follow hard chancre, that they seem insufficient to disprove the law according to which hard chancre or diseases derived from it are the necessary precedents of secondary symptoms, the sole sources of constitutional infection. A law of this kind, if there be one, can have no exceptions. What seem to be such must, if the law exists, be erroneously or incompletely observed facts. And here the incompleteness of the observations in some of the assumed exceptions may have been, as Mr. Lee suggests, that a patient has had a soft chancre at or about the same time as he has been infected from a hard chancre, the virus of which has traversed sound textures, and has produced in them too little change to be observed. It must have occurred to everyone seeing many cases of syphilis to meet with patients having secondary or tertiary symptoms, who have nevertheless been unconscious of having ever suffered with primary disease. Such cases are commonly explained away or disbelieved. They may have been instances of infection through textures which were not observably contaminated by the transmission of the infecting material through them. Such a transmission is sometimes observed with the poison of dissections; and although one may doubt much of what some believe respecting the derivation of pus-cells from exuded white blood-cells, yet it is quite certain that pus-cells and others like them may pass through membranes having no visible apertures, and may leave no visible traces of their passage. The doctrine of essential difference between infecting and non-infecting, hard and soft, chancres is in the same position as many others in pathology. We seem to have discovered a general law; the facts in support of it are many; those against it are very few; we are justified in suspecting that these are incompletely or erroneously observed, and are not what they seem to be."

ART. 132.—*On Primitive Syphilis of the Lips.*

By Professor SEGUND of Vienna.

(*Wiener Med. Wochenschrift*, xviii. 9, u. 10, 1868; *Schmidt's Jahrbücher*, No. 9, 1868.)

Syphilis of the mucous membrane of the mouth and jaws is recognized as a secondary or tertiary form of the disease commencing in the genitals or the region of the anus. Those cases on the other hand are rare in which syphilis most undoubtedly, or with a probability amounting almost to certainty, occurs as a primitive affection of the oral mucous membrane, especially the lips, and thence extends to the general system. Professor Segmund in 1865 called attention to the increasing frequency of affections of the lips of primitive syphilitic forms (indurations, papulæ, ulceration), and this opinion has been confirmed by subsequent experience in his own private and hospital practice. This observation has in addition to its importance with regard to pathology and treatment, a high social significance. From 1861 to 1867, seventy-three cases of these primary affections of the lips came under the notice of Professor Segmund; of these, thirty-two were presented at the hospital, and forty-one in private practice. These seventy-three cases of syphilitic affections of the lips occurred out of 5551 syphilitic patients. The disease was observed much more frequently in the upper than in the lower lip. The most frequent explanations as to the cause of the affection having been contracted were, in males, smoking, and the use of certain tools, and, in women, the rubbing of a spoon against the upper lip, and also the habit of holding between the lips thin, sharp, and pointed instruments, such as are used in sewing, arranging flowers, drawing, painting, working in card-board, and such like occupations. The position during sleep is a point of some importance; primitive and consecutive forms of syphilis are found with greater frequency on that side upon which the patient sleeps; the epithelium is macerated by the constantly collecting fluid. The syphilitic affections rarely occur in the lip only; as a rule other parts of the oral and buccal regions are involved. The lips are affected with slight abrasions and the several varieties of primitive ulcer, in the same way as the genitals. These affections

of the outer parts of the lips, in consequence of the pain they cause, seldom pass unnoticed, whilst those in the interior of the mouth are often overlooked, and only discovered when in consequence of extensive secondary affections the seat of primary inoculation is carefully sought for. It is worthy of remark that these affections of the lips occur in all ranks of society. Segmund passes over the special etiological reports appertaining to these affections, as they are in many cases doubtful, and moreover touch upon scandal. Labio-genital coitus could be clearly proved in some cases, and also in others contagion by means of paint brushes, tobacco pipes, drinking vessels, &c., was made out. The syphilitic affections of special importance to the practitioner are those produced through kissing. Any method of transferring syphilis to a healthy individual from the side of one previously affected at an earlier or later period, but evidently and to a superficial observer cured of the disease, is of the greatest importance, and even these methods have, according to Segmund's experience, occurred with great frequency, and form a very noteworthy but often neglected mode of origin of the infection. Great caution then is required in one's decision upon the perfection of the cure in oral forms of syphilis the signs of which are often so slight, that the uninitiated fails to regard them as sources of infection.

The treatment of the syphilitic affections of the mouth differs from that of similar affections of the genital and anal regions only so far as the local conditions require. The earliest possible cicatrization prevents a further extension of syphilis to other parts, and spares the patient much trouble. Ulcers situated on the lips should be cauterized with a solution of corrosive sublimate in absolute alcohol (one part to twenty), and afterward covered with mercurial and soap plaster; cauterized patches in the oral mucous membrane should be covered with blotting paper. Small clefts heal rapidly with the employment of a salve of ammonia chloride of mercury, one part to ten of lard.

Cauterization, occlusion, and the earliest possible healing of syphilitic affections of the mouth are, concludes Professor Segmund, of very great importance, because the tissue elements of the mouth, jaws, and fauces, loosened by the syphilitic infiltration, pass with greatest rapidity and readiness into the stomach and the general circulation of the nutritive fluids.

To give a proof of the possibility of such a mode of syphilitic extension Professor Segmund makes the observation that the severest and most obstinate forms of secondary and tertiary syphilis are met with in patients who have had or still have excessive lesions of the fauces and jaws.

Professor Segmund finally lays particular stress upon diligent cleanliness as an indispensable condition for the rapid healing of affections of the mouth.

ART. 133.—*On Lesions of the Tendinous Sheaths in Secondary Syphilis.*

By Dr. FOURNIER.

(*Gazette Hebdomadaire*, No. 41, 1868.)

1. The syphilitic pains vaguely referred to the knees are entirely produced in certain cases by tendinous lesions affecting either the ligamentum patella, or particularly the tendons of the *patte d'oie*, or again in some instances the extremity of the tendon of the biceps at the level of the head of the fibula, or perhaps even the tendon of the semi-membranosus.

2. The pains in the feet and ankles are generally due to similar lesions affecting the extensor tendons of the toes, the tendon of the extensor of the great toe, or the peroneal tendons.

3. The pains in the wrist and hands result generally from lesions affecting the extensor tendons of the fingers.

4. Those of the elbow, and particularly of its flexor surface, frequently have their true seat in the tendon of the biceps muscle.

The pain in front of the elbow occurs very commonly in secondary syphilis. Many patients complain of the suffering at the bend of the elbow, and of their inability to straighten the forearm. This symptom has been attributed to various causes; to muscular contraction, to arthralgia, to periostitis, or even to a

tumor not appreciable. Dr. Fournier has in the majority of instances observed by himself been readily enabled to explain the pain by a lesion of the tendinous extremity of the biceps. The finger pressed deeply into the region in front of the elbow over the tendon of the biceps, will excite at this point very acute pain, whilst all the adjacent parts will remain perfectly free from tenderness.

These tendinous lesions, described by M. Fournier, consist either in simple hydropsy of the tendinous synovial sac, or in a sub-inflammatory tendinous synovitis. Of their syphilitic nature there can be no doubt; from, 1, the frequency of these lesions in syphilitic subjects; 2, their production under circumstances and conditions always identical; 3, their almost constant coincidence with other undoubted manifestations of the diathesis, such as cutaneous or mucous syphilides, alopecia, and affections of the glands, joints, and head, &c.; 4, the absence of any other cause than syphilis to which they can be attributed.

ART. 134.—*On hydropsy of the Tendinous Sheaths of the Digital Extensors in Secondary Syphilis.*

By M. VERNEUIL.

(*Gazette Hebdomadaire*, No. 39, 1868.)

1. Secondary syphilis may affect the subcutaneous and tendinous serous sacs as well as the articular synovial membranes.

2. This affection of the tendinous sheaths is revealed in the form of indolent effusions or hygromata.

3. These hygromata have as yet been observed only in the region of the hand, but should be sought for in the various subcutaneous serous sacs.

4. An internal specific treatment suffices in the majority of cases to cause a disappearance of the liquid effusion.

ART. 135.—*Treatment of Tetanus by large doses of Indian Hemp.*

By S. G. CHUCKERBUTTY, M. D.

(*Indian Annals of Medical Science*, No. xxiv.)

Dr. Chuckerbatty submits a few cases in illustration of the treatment of tetanus by large doses of Indian hemp. Sir W. B. O'Shaughnessy, to whom is due the merit of introducing and recommending it, gave as much as one drachm of the tincture every half-hour, until the severe symptoms were checked, and then resumed the remedy as often as required by a return of the symptoms till the final cure. His wonderful success with it attracted for a short time the attention of physicians in India, in Europe, and America. Since then, however, the practice seems to have fallen into neglect. This has been due chiefly to the small and inefficient doses in which it was employed by others, and partly also to badness of the article used, and its combination with other drugs, which divided with it whatever benefit was obtained. The resin exported to foreign countries was largely adulterated, and in India some physicians gave it with aloes, some with chloroform, some with blue pill, and others with other substances. The cases related by Dr. Chuckerbatty show that no such combinations are necessary, and that alone and in large doses hemp is quite sufficient to meet every indication. When the bowels are constipated, the only other measures occasionally required are purges. Food of course, must be given under all circumstances, but it must be light and liquid, to enable the patient to swallow it, as the locked condition of the jaws prevents the exhibition of solid substances, and the stomach is too weak to digest them.

ART. 136.—*On Operations for Caries of Bone.*

By F. LE GROS CLARK, F.R.C.S., Surgeon to St. Thomas's Hospital.
(*British Medical Journal*, October 24.)

Mr. Clark's practice, and what he regards as the rational treatment of these cases, is embodied in the following passage, extracted from one of his Clinical Lectures, published in the *Medical Times and Gazette* for February 16th, 1861. "As regards operations for the removal of carious bone, I cannot say that my experience justifies my recommending the proceeding of gouging out the diseased texture. My belief is, that violence thus offered to the parts often involves the surrounding healthy bone in diseased action, and thus leaves the patient in a worse state than before. The condition is analogous to that of an excavated ulcer in soft parts, and seems to me to be more amenable to treatment adapted to such state. Sinuses may be freely laid open, and suitable dressing employed, to encourage a healthy action and spontaneous cure. But I am aware the weight of opinion, as regards the general practice, is adverse to this negative treatment."

Such has been Mr. Clark's practice for many years. He states that he has found considerable advantage in the use of diluted acetic acid (which he has latterly substituted for the phosphoric) as a bone-solvent, as well as a stimulant in carious cavities which have been previously laid freely open by external incision.

ART. 137.—*The Treatment of Diseased Joints.*

By HOLMES COOTE, F.R.C.S., Surgeon to St. Bartholomew's Hospital;
Consulting Surgeon to the National Orthopædic Hospital, etc.
(*On Joint Diseases; their Pathology, Diagnosis, and Treatment.*)

Mr. Coote insists that in the treatment of diseases of joints, surgeons should rely more upon the enforcement of complete rest, and of gentle, long, and patiently-continued mechanical treatment, and less upon the more violent surgical procedures.

Mr. Coote objects to any interference with a diseased joint whilst the malady is in the active stage. He prefers that the limb should always be left in the semi-flexed position assumed by the patient as the most comfortable, and considers that any attempt to straighten it under such circumstances is faulty in principle, and only calculated to do injury by pressing together highly sensitive parts, and thus aggravating the suffering. Indeed, he proceeds to say:—

"I am no advocate for the forcible extension of joints, whether contracted or deformed, except in a few cases, where some very unyielding obstacle to *redressment* has to be suddenly overcome. The practice is to use after cases of rheumatic disease, when a bar of new bone prevents the proper movements of the limb, or where osseous union holds the bones in some abnormal position after all morbid action has subsided."

ART. 138.—*The Use of Compression in certain Surgical Cases.*

By C. H. HIGGINS, M.D., M.R.C.P., Lond., F.R.C.S., Eng., formerly
Surgeon Somerset County and Birkenhead Hospitals.
(*Liverpool Medical and Surgical Reports*, October.)

The author presumes that few practitioners, to whom it has occurred to treat that common form of accident a "sprain," have not felt dissatisfied, if not humiliated, at the prolonged period which has intervened between the occurrence of the injury and the final recovery of the patient.

The plan which Dr. Higgins has pursued during the last four or five years

in all cases of sprain is as follows: immediately on seeing the patient, and satisfying himself of the nature of his accident, he plunges the injured joint, say the ankle or the wrist, which are the parts most exposed to sprain, into a vessel containing water as hot as can be borne, and keeps it there for at least two hours, maintaining the temperature of the water by fresh quantities of the hot. At the end of the time specified, he finds the pain of the part considerably mitigated, and it is, of course, very greatly distended and swollen. Having next carefully dried the part, he proceeds *at once* to strap it (if the ankle, from the toes to the middle of the calf, and if the wrist, from the fingers to the middle of the forearm), as *tightly* and *equally* as he can, with common adhesive plaster cut into strips an inch wide, placing each succeeding piece so as to overlap the preceding one by about a quarter of its width. The author always puts on two such layers, and finally he directs the patient to keep the horizontal position, on no consideration to meddle with the dressing, but if much pain or distress is set up to take an opiate on retiring to rest. Upon visiting his patient on the following day, he usually receives some account of a restless night during the first hours, but subsequently of sleep and diminution of pain, etc. The plasters are generally quite loose from the shrinking of the limb, which is moreover now said to be comparatively free from pain, unless handled roughly—though of necessity much discolored; having removed the plaster, Dr. Higgins immediately replaces it by fresh strips laid on as firmly, evenly, and extensively as before; in short, exactly in the same way as on the first dressing, insisting of course on a continuance of the recumbent position. On the third day of the accident he repeats the process, this time, however, allowing two days to intervene, and he permits some movement about the room. At the end of the two days, he renews the plaster-dressing exactly as on the previous occasions, and generally for the last time, retaining this dressing until it loosens itself off, which usually occurs in three or four days, by which time the patient is able to use his limb, and is free from pain; in short, cured. Such is the author's proceeding in ordinary cases of sprain; where the accident is of unusual severity, he has had recourse to *six* relays of plaster instead of *four*, and up to the present time with equal success, though the cure is generally delayed three or four days or so longer.

ART. 139.—*Torsion of the Arteries.*¹

By G. M. HUMPHRY, M.D., F.R.S.

(*British Medical Journal*, August 15.)

In this paper Professor Humphry gave the results of his experience of torsion of arteries after operations, as well as the results of experiments on animals, and on the arteries of men and animals after death. For many months he has practised torsion after all operations, including three amputations in the thigh, amputations in the leg, of the breast, excision of the knee, etc. It has answered quite well. There has been no after-hemorrhage in any of the cases; the wounds have healed more quickly, and there has been less pain, than after the ligature. The operation is rather more troublesome, and requires more care and time, than the ligature. He simply seizes the end of the artery with strong forceps, and, holding the forceps in the axis of the vessels, twists till the portion included in the grasp is twisted off and the forceps are quite free. He believes this method to afford the greatest security, and does not recommend the practice of holding the vessel with a second pair of forceps above the part to be twisted. In the case of the smaller vessels, he strongly recommends torsion, as it enables the operator to secure any number without leaving in the wound any foreign substances or excitors of sloughing or suppuration. With regard to larger vessels, such as the femoral, additional experience is required before we can be assured that it is a sufficiently safe substitute for the ligature. In the process of torsion, as observed upon an artery twisted after death, the

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

thick, inner, musculo-elastic coat is first severed, often as though it had been cut by a knife or ligature. As the torsion goes on, it is so compressed or squeezed by the twisting of the outer coat, that its divided edge is commonly turned up, reflected, into the tube of the artery, to a greater or less extent, as the resistance of the outer coat is more or less prolonged, forming a valvular or funnel-like projection into the vessel. Thus there are the two things—the inversion of the inner coat, and the twisting of the outer. It is upon the latter that reliance is to be placed for resistance to the flow of fluid from the vessel, inasmuch as its pressure causes and maintains the valvular inversion of the inner coat, and, further, by its own strength, offers a direct obstacle to the escape of the blood. This the professor has proved by injecting water, and connecting a column of mercury with the vessel.

ART. 140.—*The Torsion of Arteries as a Means of Arresting Hemorrhage; with Experiments.*¹

By T. BRYANT, F.R.C.S.

(*The Lancet*, August 15.)

The author commenced his communication by alluding to M. Amussat's original investigations on torsion made in 1829, and by giving some brief outline of the history of the subject. He noticed the earliest introduction of the practice into England by Mr. Costello in 1834, and expressed his belief that the practice had not been generally accepted because it was introduced before its time—that is, before the introduction of chloroform. He recognized the fact that within the last few years surgeons have become clearly dissatisfied with the application of the ligature to divided vessels, and enumerated the objections which have been brought forward against the practice. He gave full credit to Sir J. Simpson for having prominently brought forward the subject before the profession, and for having suggested his plan of acupressure, which is now under trial by the profession. He stated also that it was from Professor Syme's letter to *The Lancet* of January 4th that he had been induced to inquire into the subject of torsion and to make his experiments. The two methods by which torsion may be practised were then described—the “free” and the “limited.” In “free” torsion, the end of the artery should be fixed by a pair of clasp forceps, and twisted freely. In “limited” torsion, the artery, having been drawn out of its sheath, should be fixed transversely about three-quarters of an inch from its divided extremity by a pair of clasp forceps, and held steadily; whilst with a second pair of forceps the free end of the vessel should be twisted freely, as in the former kind. The object of the first pair of forceps being to fix a limit to the twisting of the vessel, and prevent the artery being separated for any distance from its vascular attachments. Three or four complete revolutions of the forceps are enough for small arteries, six or eight for large. The author then passed on to relate his experiments on animals. The first six were upon the carotid and femoral arteries of the dog. In all free torsion had been employed to both ends of the divided vessel, and in all with success. The seventh and eighth experiments were upon the carotid artery of the horse. In these limited torsion was used, and in both with success. In all these instances the animals were subsequently destroyed, and their vessels carefully examined. Special notice was then drawn to the particulars of a case in which the author had applied torsion to the brachial artery, in its upper third, of an old woman aged sixty-eight. The torsion proved quite successful, but the patient died from thoracic complications, and this allowed an opportunity of observing the changes the artery had undergone. The physiological conditions of the arteries which had been subjected to torsion then received attention; the results of every experiment were carefully described, and the different points illustrated by drawings and preparations. The results of numerous experiments upon the arteries of the dead subject, both healthy and diseased, were then given,

¹ Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society.

and these went to confirm in every respect the observations obtained from these experiments made upon the living. A careful *résumé* of the physiological effects of torsion was then made. Some remarks upon the experiments followed, and a comparison was drawn between the effects of torsion on the vessels, and the ligature, and acupressure. Some practical points connected with the application of torsion were noticed, and the necessity of employing right instruments was enforced. A general summary of the whole subject was then made, and the following conclusions read: 1. That hemorrhage may with certainty be arrested by torsion from even the largest vessels. 2. That it is a safe and judicious practice in all cases in which the vessels are small or of moderate calibre; and that, as far as experiments and practice yet prove, it is equally so in arteries of the first magnitude. 3. That torsion may be "free" or "limited," the free method being applicable to vessels of moderate size, and even to the largest of the extremities, limited torsion being more adapted for the large and loosely-connected vessels. 4. That in torsion, as in the ligature, the permanent hæmostatic processes are alike due to the sealing of the divided inner and middle tunics; but that in the ligature there is only an irregular division of these tunics, whilst in torsion there is a complete division, separation, retraction, and valvular incurvation. 5. That in torsion the twisted cellular coat forms, with the retracted and incurved middle coat, the direct mechanical obstacle to the flow of arterial blood, in the same way as the compressed cellular coat does in the ligature, but that in torsion the twisted cellular coat and incurved middle coat become subsequently a permanent means of occluding the end of the artery, whilst the ligature of necessity becomes subsequently a source of irritation, and too often a means of undoing what has been done by nature's own hæmostatic processes. 6. That in torsion the twist in the cellular coat of an artery, the division and subsequent retraction, incurvation, and adhesion of the middle coat, and the coagulation of the blood in the vessel down to the first branch, are the three points upon which its temporary as well as permanent safety depends, whilst the permanent safety of acupressure rests upon the last point alone, and its temporary effects upon the pressure produced by the needle. 7. That there is every reason to believe that when torsion has been successful on its first application, the fear of subsequent hemorrhage is altogether groundless, for there is nothing, as there is in the ligature, to interfere with the physiological processes set up by nature to occlude the divided vessel, and, unlike acupressure, the temporary obstacle to the flow of blood becomes a permanent one. 8. That upon physiological grounds torsion has decided advantages over the ligature and the acupressure-needle, and that if subsequent experience confirms what has been hitherto observed in the experiments on animals and the application of the practice in the human subject, we shall have gained a point of no mean importance, and simplified surgery in no slight degree. The paper was concluded by the author stating his belief that the practice was a safe and valuable one in many cases, if not in all; that it was not a crude idea, based upon a theory spun out of a fertile imagination, for it had its origin in observation of nature's own processes; that it was based on the well-recognized physiological principles of natural hæmostatics; and that it was artificial only so far as the surgeon's art was employed in rendering these processes most available. Models, drawings, and preparations were freely used to illustrate the subject.

ART. 141.—*The Relief of Pain in Open Cancer.*

(*The Lancet*, August 8.)

The exquisite pain which belongs to open cancer is found to be best relieved by the stramonium ointment, which is employed in the Middlesex Hospital. The following is the formula for this in the hospital pharmacopœia: Half a pound of fresh stramonium leaves, and two pounds of lard. Mix the bruised leaves with the lard, and expose to a mild heat until the leaves become friable, then strain through lint. The ointment thus prepared is spread upon lint, and the dressing changed three times a day.

ART. 142.—*On the Treatment of Cancerous Tumors by Injections of Acetic Acid.*

By Professor BUNTZEN.

(*Hospitals Tidende*, No. 19, 1867; and *Schmidt's Jahrbücher*, No. 7, 1868.)

Professor Buntzen reports four cases of cancerous tumors, which he has treated according to Broadbent's plan. A fifth case is added in which the same plan has been carried out by Dr. Heyn.

CASE 1.—The patient was a female, forty-four years of age, whose right mammary gland had been removed eighteen months before in consequence of a cancerous tumor, which had existed for many years. The operation was followed by two relapses, in consequence of which another large tumor was first removed, and afterwards a smaller growth, situated in the centre of the extensive cicatrix. Six months after the last operation there was formed in the cicatrix a prominent rounded growth, which was dark-colored and melanotic, elastic, fungoid, circumscribed, and presenting all the characters of the former tumors. At intervals of nine days injections were made of a mixture of one part of acetic acid with two parts of distilled water; of this from four to six drops were injected into the tumor at each sitting. The tumor was neither distended nor painful, but from the seat of puncture there was a discharge of thick fluid mixed with detritus. In the course of a few days the mass of the tumor became soft, and soon felt like a cyst, containing but a small quantity of fluid, the cicatricial tissue became thin, and was broken at the centre of the tumor, but without any perceptible suppuration. The tumor then came away without leaving any sensible hardness in the adjacent tissues. During the whole time of the injection treatment the patient never suffered from any troublesome severe pain.

CASE 2.—A woman thirty-five years of age, of cachectic appearance, had in her right mamma a very hard scirrhus tumor, with an irregular surface, of the size of a goose's egg, and closely adherent to the superjacent integument. Five injections were made at intervals of a few days, and these resulted in the central parts of the tumor becoming soft, and in a discharge of a thick fluid mixed with detritus from the seat of puncture. The tumor gradually diminished, but did not disappear altogether. The patient then left the hospital with the intention of undergoing treatment at a later period. As this case was one of those which are complicated with scirrhus tubercles of the skin, and as these tubercles were scattered over the surface of the breast, Professor Buntzen excised the whole of the mamma, since it was impossible to remove the extensive affection by any other means.

CASE 3.—This patient was a girl twenty-three years of age, whose left mamma had been removed two years before in consequence of a cancerous tumor. A tumor subsequently developed itself in the axilla; this was of the size of a walnut, round, hard, and movable. Five or six injections were made into this growth, and caused it to swell and become painful. The tumor visibly softened and diminished in size; before it had disappeared the patient returned to her home.

CASE 4.—On the tibia of a woman aged seventy was developed a soft and painless tumor of considerable size, which was covered by varicose integument; this had grown rapidly, and was evidently of a medullary nature. Repeated injections of twenty drops of acetic acid injection were tolerated by the patient, but were followed by no results. As this tumor was as large as the closed fist, and had deep-seated connections, Professor Buntzen considered the prognosis very doubtful.

CASE 5.—Dr. Heyn was consulted by a young man, on one side of whose lower lip an epithelial growth of the size of a hazelnut had developed itself in the course of the preceding fourteen days. There was no ulceration, and but slight induration in the submucoas connective tissue of the lip; the lymphatic glands were not swollen, and the general condition of the patient was good. Sixteen drops of common vinegar were injected into the submucoas connective tissue, as close as possible under the tumor. This caused severe pain, which, however, was soon relieved. The tumor increased to the size of a pigeon's egg, and remained in this condition for four days. Ten days later the tumor came away, but there still existed on the lip a more recent growth, and several condylomatous protrusions. To these charpie saturated with vinegar was repeatedly applied. After some days the last layers of diseased tissue came away, and left an unclean ulcer about one inch in length, and three-eighths of an inch in breadth, which had a diphtheritic appearance. Vinegar was again injected,

which did not produce such severe pain as on the former occasion, but again caused considerable swelling; this, however, soon diminished, the ulcer commenced to put on a healthy appearance, and was then brushed over with oleum cadinum and glycerine. The ulcer gradually healed, and at last no trace of the previous affection could be recognized, save a very slight swelling. The epithelium of the lip was in its normal condition.

ART. 143.—An Illustration of extensive Cancer, traceable to Dispersion from the Primary Tumor, as distinguished from its Constitutional Reproduction.

By CHARLES H. MOORE, F.R.C.S., Surgeon to Middlesex Hospital.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October, 1868.)

After describing the different modes in which cancer is disseminated, Mr. Moore relates the case which forms the subject of his paper, and in which the communication between the cancer and the surrounding parts was maintained by the agency of a creamy liquid, and the continuity of distant tissues with the original disease was maintained.

The patient was a woman, aged forty-eight, who suffered from a rapidly-increasing tumor of the left breast, which soon formed an ulcer. There was a cluster of enlarged and movable glands in the axilla, and a firm and globular gland was felt above the clavicle and behind the sterno-mastoid muscle. An operation was performed with a view of relieving local suffering and temporarily arresting the growth of the tumor, and the knife was employed in the usual way, care being taken to remove with the tumor all the thickened integument as well as the diseased axillary glands. In about two months and a half the wound was entirely healed, but two small, hard nodules were perceived below the cicatrice; and in about two months more six tumors were observable under the skin below the scar. But Mr. Moore specially draws attention to the fact that above the scar the integuments were pale, flat, and supple, and the supra-clavicular gland behind the sterno-mastoid was not larger than before the operation. The disease again spread rapidly in all directions, but the contrast of the appearances above and below the scar was still very striking, the tumefaction and discoloration being much more marked below than above. Death ensued in a few months more, and it was then found that the body was not emaciated, and the muscles were well nourished. The diseased mass presented a creamy whiteness, and the surface when cut or squeezed, yielded abundantly a perfectly white juice resembling cream. The disease was found upon microscopical examination to be cancerous, and the milky or creamy fluid contained numerous oil-globules. From the examination of the organs affected with the disease, Mr. Moore infers that after the operation was performed, and a tough, transverse scar was established across the left side of the chest, the lymphatic current was temporarily arrested in its course upwards, but was conducted downwards into the lower part of the left side of the thorax, and subsequently to the bronchial glands, diaphragm, and liver, which last, however, presented only one cancerous nodule. The mesenteric glands were not affected, and hence the patient was maintained in a state of general good nutrition. Mr. Moore considers that in this case the disease was nourished from healthy blood, and that the whole source of the cancerous impregnation was derived from the left mammary region, whence alone the oily products overflowed the tissues.

ART. 144.—*A Ready Means of Applying Chloride of Zinc in Cancer.*

By WEEDEN COOKE, M.R.C.S., Surgeon to the Royal Free and Cancer Hospitals.

(The Practitioner, No. 3, September.)

Following a plan adopted in some hospitals, of steeping lint in solution of sulphate of copper and liq. ferri perchlor., and afterwards drying it, Mr. Cooke has been substituting chloride of zinc for these substances, and finds the preparation most convenient for application.

"The chloride of zinc, being a highly deliquescent salt, requires scarcely more than exposure to the air to render it liquid; at least a very few drops of water will quickly produce this effect. The lint is thoroughly soaked with this liquid, and hung up for a short time. It does not dry so completely as the iron or blue lint, owing to the deliquescence of the zinc. It preserves its active properties for weeks, if kept in a wooden or pasteboard box, such as a Seidlitz-powder box. An old pair of scissors should be kept for cutting it, and forceps coated with vulcanite may be employed in its application or removal. The great convenience of the chloride of zinc lint is that the smallest pieces may be used, even to a wart or pimple, or to parts, such as the eyelids, to which it would be almost impossible to apply the old paste. There is also the advantage of confining the caustic effect absolutely to the part to be attacked. I have used it to those stubborn indurated ulcers at the inner canthus, be they lupus, rodent ulcer, rodent cancer, or what not, as well as to the upper and lower lip, and other parts of the face, with the greatest advantage; and have obtained better results than formerly, because of the power of adapting the application exactly to the size of the eschar required, and the ease of keeping the lint on as need be, and reapplying it as often as may be necessary with very little discomfort to the patient. It being always ready, the surgeon in going round his wards may himself apply this lint to a commencing slough, either in a cancerous breast, or an ulcerated leg, or bed-sore, or a phagedæna, and at once check that which otherwise may give much trouble to stay. I had occasion to enucleate a large epithelioma from the parts about the umbilicus, which dipped down so deeply as to render it probable that it had reached the inner wall of the abdomen. An eminent surgeon advised removal by the knife, but the patient objected, and I set to work with some trepidation to remove it by means of the chloride of zinc. There being a large surface to destroy, I used at first the paste, taking away every other day the dead portions; some little bleeding occurred when these were removed, but by means of the iron lint it was readily checked. It was not possible by any amount of packing round the diseased part to prevent very troublesome excoriation of the healthy parts; and so, at the latter part of the treatment, it occurred to me to use the lint as I have above described. It answered perfectly, and the whole of the cancerous mass was removed, leaving a red healthy granulating surface, which soon healed by the application of resin cerate. In a very curious case, which seemed to combine the appearances of keloid and encephaloma, I have recently been able to discharge from the hospital to resume her usual occupation, after a twelvemonth's residence there, a patient upon whom I had twice operated by means of the *écraseur* for large growths of a soft spongy character, having an extended horny base. These soft excrescences reappeared, and I finally attacked them with the zinc lint so successfully, that for a time at least there seems a prospect of immunity. For uterine purposes, also, this convenient method of using chloride of zinc is much to be commended. Passed through the speculum to the diseased part, and covered by a further plug of dry lint, it does its work, if properly measured for the part to be destroyed, without injury to the healthy tissues."

ART. 145.—*On the Immediate or Remote Consequences of Traumatic Lesions of Nerves.*¹

By M. PAULET.

(*Gazette Hebdomadaire*, No. 18, 1868; and *L'Union Médicale*.)

The first experiments on this point of surgical physiology were made by Cruikshank in 1776. This English anatomist proved that section of a nerve is followed, after a certain time, by re-establishment of the physical contiguity and of the function of this organ. These experiments were subsequently confirmed by the researches and observations of many British and continental authorities.

Since the year 1838 it has been demonstrated and almost universally admitted that the motor and sensory functions of any nerve in the body may be re-established after section of that nerve.

Various opinions have been given on the subject of the mechanism of this physiological restoration. According to most authorities, the divided nerves regain their continuity and normal anatomical structure.

According to Delpech and Monteggia, the two ends of the nerve-trunk remain separated by cicatricial tissue, capable of transmitting sensory impressions and exciting voluntary movements.

Finally, Callosen, Baudens, Herteloup, Hutin, Breschet, and Pigné admitted that the functions were re-established, not by the divided cord, but by the anastomoses of its peripheral branches with adjoining nerves, and by an increased action of the latter.

For the last thirty years physiologists have acknowledged the following points:—

1st. That after section or resection of a nerve, the continuity of the injured trunk is re-established by a nervous substance identical with the normal tissue; in short, that there is a true regeneration of nerve-tissue.

2d. That this regeneration of nerve tissue is the *conditio sine qua non* of the return of the function; so that this will not be established if the two ends of the nerve remain isolated, or if they united merely by simple cicatricial tissue.

Since 1850 the study of the restoration of nerves has been carried into a new direction by Waller, Schiff, Kölliker, Brown-Séquard, and others, who endeavored to follow, step by step, the actions carried on in the nerve fibres from the time of section until every trace of the traumatic lesion had disappeared.

The following points were established by these observers:—

1st. The peripheral extremity of a divided nerve inevitably undergoes a degeneration, the essential characteristics of which are a fatty transformation and absorption of myeline.

2d. This degeneration is followed by an inverse regeneration, which consists essentially in the reappearance of myeline.

3d. Until these two phases have been accomplished, any return of function is impossible.

Flourens and Brown-Séquard have demonstrated that regeneration is possible even of portions of the nerve centres.

What is the minimum time in which this nervous regeneration can be accomplished? In what limits is it possible? Under what circumstances does it fail? What are the circumstances preventing or favoring it?

When section or resection of nerves has been performed, a month is generally required for the regeneration of the nerve fibres at the peripheral end to be accomplished; but the reunion of the two ends by a nervous cicatrix and the re-establishment of the function requires a much longer period. In the most favorable cases, when either a simple section is made or about a centimetre of the tissue is removed, not less than from three to four months is required. When there is a greater loss of substance, five or six months, a year, and even a

¹ Memoir presented to the Société Impériale de Chirurgie.

longer period passes before sensibility and voluntary movement have regained their integrity.

When the loss of substance exceeds three centimetres, the two ends of the nerve remain altogether independent, or are united merely by a cord of connective tissue without traces of nerve fibres; in both cases the function is never re-established.

Such is the rule in man and adult animals; but exceptions occur when the nerves are resected in very young animals, or when, in man or adult animals, resection is followed by suture of the divided nerve.

The younger the animal, the more likely is nervous regeneration to be accomplished, when the ends of the divided nerve are separated to a smaller extent, or are maintained in perfect contact, and when the extremities of the nerve are bathed for a shorter time in pus.

M. Paulet has sought out the cases of neurotomy reported in books and periodicals. From his long-continued and laborious researches, and also from a very interesting case of his own, it appears that clinical observation is at complete variance with the rules so precisely laid down by physiologists.

The facts contained in his memoir are remarkable. In some instances the re-establishment of the nervous functions took place within the period fixed by physiologists; and in others, sensibility and movement were restored, although the loss of nerve substance could not have been repaired.

The author arranges these facts under two chief heads: 1. Those of neurotomy by simple section. 2. Those of neurotomy with resection.

At the head of the first group he places cases in which the two ends of the injured nerve were maintained in contact by suture. He alludes to the case of suture of the median nerve communicated by M. Laugier to the Académie des Sciences, in 1864. From the very day of the application of the suture, sensation and movement, which were completely abolished before the operation, commenced to be established in the parts of the hand supplied by the branches of the median nerve; this return of sensibility and movement became more and more marked, and at the end of three months the functions of the part were re-established, although not completely.

An analogous case was reported in the preceding year (1863) by M. Honel. A young woman, under the care of M. Nelaton, had a neuroma removed from the median nerve, the two divided ends of which were brought together by suture. After a few days, sensibility and movement returned in the parts of the hand supplied by the median nerve.

It was thought by MM. Laugier and Honel that there was immediate union in these cases. This interpretation is rejected by M. Paulet, for the reason that immediate union has never been observed by the most competent physiologists after division of a nerve. According to Paulet, there was a rapid restoration, not an immediate union.

He concludes from these facts that the function of a divided nerve may be re-established, although the two ends may remain independent of each other.

By the side of those cases in which the two ends of a divided nerve have been maintained in contact by suture, may be ranged those to which a large nerve-trunk has been tied by a ligature. Two cases, one reported by Richerand, the other by Descot, prove the complete re-establishment of function after ligation in a space of, in one instance, fifteen days; in the other, of two months.

MM. Schiff, Philippeaux, and Vulpian have seen nerve regeneration accomplished in seven, thirteen, and seventeen days, in very young animals a few days after birth. M. Magnien, in operating upon adult animals, noticed in two cases, out of twenty-five experiments, regeneration; and re-establishment of function between the eighth and twentieth day after simple section of a nerve-trunk and the reunion of the two ends by suture.

Mr. Paget, in his "Lectures on Surgical Pathology," cites two cases in which sensibility returned on the fifteenth day, although no care was taken to bring the cut ends of the nerves into contact. M. Paulet thinks that in those cases the function was re-established by some other than the normal way. In support of this opinion he cites cases in which the functions of a nerve were

re-established, although there was clear proof that the continuity of its trunk was interrupted.

In a case reported by M. Richel, there was a large wound on the front of the forearm, by which the median nerve was cut through. After assuring himself that there was complete division of the nerve, the surgeon, commencing to investigate its effects, was surprised to find that the patient had preserved the tactile sensibility of the thumb, and index, middle, and ring fingers.

Not less curious is the fact reported by M. Baudens, in which sensibility persisted in spite of section of all the terminal branches of the brachial plexus, except the radial nerve. Another case has been reported by MM. Leudet and Delaiboit, of an individual whose median nerve was completely divided, and in whom it was demonstrated by post-mortem examination thirty-seven years later, that continuity had never been restored; the sensibility of the parts supplied by the median nerve having been preserved during the whole of that time.

In the preceding cases the nervous function was re-established four times before within the period considered by physiologists as indispensable; that is to say, at a period when it was impossible for the two ends of the nerve to have become united by a cicatrix permeable by the nerve current; in three instances the function was re-established, although it was visibly demonstrated that the peripheral extremity of the nerve remained separate from the central extremity.

In eighteen cases of neurotomy collected by M. Paulet, where a portion of the nerve was resected, the functions were sometimes re-established within a very short period; at others after a long time. In the latter case the loss of substance in the nerve-trunk was equal to three or four inches, and excluded every possibility of restoration, according to the laws laid down by physiologists. Finally, in certain cases the resection of an important nerve causes no disturbance either in the sensation or in the voluntary movements of the part supplied by the trunk.

M. Paulet declares that the explanations of restored nervous function after neurotomy given hitherto by physiologists are insufficient. The re-establishment of the continuity of a nerve cannot be made to account for those instances in which function is re-established within the period at which complete restoration of the nerve-trunk can be accomplished, according to the laws laid down by experimental physiology; still less for those in which the return of the functions of the nerve takes place, although the two ends of the divided nerve have never been reunited.

The autogenetic restoration of the peripheral end does not explain the phenomenon, since so long as this end remains isolated from the centre it is impossible to conceive how excitation of its terminal branches can give rise to a sensation received by the cerebrum.

The old theory, abandoned for the last thirty years, by which it is admitted that the nervous functions are re-established through anastomoses, does not, according to M. Paulet, render a sufficient account of the clinical facts.

According to Müller, when one part of the body is supplied through anastomoses of different nerves of the same function, paralysis of one of these nerves will cause partial loss of sensation in the organ supplied, since the sound nerve cannot maintain the sensibility of the whole part, and the number of points which remain sensible will correspond to those supplied by the primitive fibres which remain intact.

M. Ch. Robin has made out in the fingers that the nerve filaments which are lost in the touch body take their origin from terminal loops formed on one side by the median nerve and on the other by the radial. This fact will explain the cases of MM. Laugier and Richel, and several others.

It has been observed in stumps that anastomoses are established between the terminal extremities of nerves; the neuromata formed after amputation sometimes contain a great number of nerve fibres, which cross in every direction, and become continuous with the fibres of adjacent nerves.

But if there be normal and permanent peripheral anastomoses, why is it that their functions are not immediately manifested after the section of a nerve-trunk? Does the disturbance caused by an injury act at once upon all the nerves of a limb? Is a certain delay required before the nerve current can

follow another path, in the same way that the circulation is not re-established for several days in all the collateral branches after ligature of the principal artery? In this way one may explain those cases in which, after a short paralysis, the functions are regained; but how are those instances to be accounted for in which paralysis persists for several months after the removal of a portion of nerve eight or ten centimetres in length?

In order to find an answer to all these questions, M. Paulet has made experiments upon animals. He divided and resected nerves without finding any important result; and he remains convinced, until there is proof to the contrary, that physiologists will not reveal the required explanation by means of experimental research. The determination of the gradual return of cutaneous sensibility is a delicate investigation, which is capable of ending in a successful result by observations in man alone; the chief condition being that the patients are sufficiently intelligent to give a precise account of their sensations, and have no interest in deceiving the observer.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 146.—*On the Treatment of Baldness.*

By M. HARDY.

(*Medical Times and Gazette*, August 8.)

M. Hardy, the eminent dermatologist and physician to the Paris Hospital of St. Louis, in an excellent article on this subject, points out the diagnostic means by which we may decide whether a case of baldness is hopeless, or whether it is likely to yield to treatment. He regards those cases as the most favorable which are consequent on chlorosis and on the anæmia which not uncommonly follows childbirth and severe acute diseases, when the falling off of the hair is due to general debility. While the preparations of iron and bark, nourishing diet, country air, the shower-bath, and other general tonic measures should be prescribed, local means should also be adopted. The first step in this direction is to cut the hair so short as not to exceed a centimetre (two-fifths of an inch) in length, and to repeat this process two or three times at intervals of a fortnight or three weeks. Stimulating ointments or lotions may then be prescribed. He simply alludes to the preparations of cantharides, and specially recommends lotions containing spirits of rosemary or castor oil, followed by a pomade containing one-twentieth of its weight of tannic or one-thirtieth of gallic acid; and he has often seen great benefit derived from the use of a pomade consisting of sixty parts of beef marrow, thirty of castor oil, and three of gallic acid.

ART. 147.—*Deep Ulcer at the Base of Arytenoid in a Married Woman Infected by Child Bearing, never having had Primaries.*

By JOHN MORGAN, F.R.C.S.I., A.M., T.C.D., Surgeon to the Westmoreland Lock Hospital.

(*Medical Press and Circular*, October 14.)

The following case is related by Mr. Morgan:—

"R. D—, aged twenty-six, a married woman, admitted August 31, 1868, mother of two children, one two years old, another born one year since, but died, when eleven weeks old, of infantile syphilis. Two months after the birth of the first child she had sore throat and pains in the head, and in about four months she got a sore on the head over the frontal bone, which healed after treatment; she remained well till after the birth of the second child, when, in

about three weeks, she got sore throat, and about nine months after got secondary sores on the arm, chin, eye, and head, over the parietal region; she never had joint pains or rash, primary sore or bubo; she is hoarse now for four months, is losing flesh, and has been under treatment for these affections for one year and nine months. The chest sounds are perfect.

"On laryngoscopic examination, a well-marked deep ulcer like a chink is seen at the base of the right arytenoid, near the attachment of the false vocal chord; the mucous membrane generally in the neighborhood is congested-looking and tumid.

"TREATMENT.—The parts around and the ulcer were brushed with nitrate of silver solution, gr. xxx ad ʒj, and every third day touched with tannin solution, gr. xxx ad ʒj. Iodide of potassium in large doses administered. The improvement after three applications to the larynx was remarkable, though the ulcer, from the mobility, probably, was rather refractory.

"This case," Mr. Morgan adds, "is an interesting example of intermediate infection by child-bearing, and the more complete affection of the system after the birth of the second child. She is now again about four months pregnant. Discharged cured September 26."

ART. 148.—*Nævus in the Eyelids.*

By CHARLES BADER, Ophthalmic Assistant-Surgeon to Guy's Hospital.

(*Natural and Morbid Changes in the Human Eye.*)

With regard to the treatment of nævus about the eyelids, Mr. Bader writes, ligature and injection of the tincture of perchloride of iron have been followed by sloughing of the eyelid. The safest and quickest method is to completely remove the nævus by operation, if its size and situation permit. The part may be rendered insensible by the ether spray.

Another effectual method of treatment consists in the destruction of the nævus by means of the galvanic current. Next to this can be recommended the insertion of stout silk threads, previously moistened with the tincture of perchloride of iron. Due regard must be paid to the portion of the eyelid we operate upon, in order to avoid disfigurement, displacement, &c.

ART. 149.—*Emphysema of Eyelids of the Left Eye caused by an old Fracture of the Nasal Bones.*

(*Gazette des Hôpitaux*, No. 58, 1868; and *Edinburgh Med. Journal*, October.)

A man aged forty-six came into the wards of the Charité under M. Gosselin's care. He had sustained a severe fracture of both nasal bones, with considerable displacement, twenty-two years before, while in the army. He had since then been perfectly well till the day before admission, when all at once, without any cause, he lost some blood from the left nostril and by the angle of the eye. At the same time both eyelids of the left eye swelled up with great rapidity, and he could no longer open his eye. He was very much alarmed. M. Gosselin made out that the swelling was less resistant, less elastic, and more easily indented than inflammatory swelling, while it pitted still more easily, and was less doughy than mere œdema. He also by a very simple means which he always employs, detected the peculiar sound due to the presence of air beneath the skin. This method is a filip with the finger (*procédé de la chiquenaude*). He thus diagnosed an emphysema of the lids, and accounted for it by the theory that the old injury had left some sharp fragment of bone adhering to the nasal or lachrymal mucous membrane, which by some strong pressure with the handkerchief had been dislodged, and forced through the nasal mucous membrane. The patient was recommended caution for the future in the use of his handkerchief.

ART. 150.—*A Case of Sympathetic Ophthalmia cured by Neurotomy ; a Substitute for the Removal of the Eyeball.*

By J. Z. LAURENCE, M.B., F.R.C.S., Surgeon to the Ophthalmic Hospital, Southwark, and to St. Bartholomew's Hospital, Chatham.

(*The Lancet*, November 14.)

Mr. Laurence lays before the profession the following successful case:—

"T. S——, aged twenty, was admitted into St. Bartholomew's Hospital, Chatham, under my care, on June 20th. Twelve years previously a piece of steel had struck his left eye. He had still perception of light; scleritis and cyclitis were present. By means of a probe, it was found that the most tender part of the ciliary region was situated downwards and outwards. The tension of the globe was normal. He complained of great intolerance of light in the uninjured eye—the right one; as soon as he fixed this upon any object pain and watering ensued, so that the eye was practically useless to him for any near occupation; but for distant objects his vision was found to be perfect (S=1). On the 22d I made an incision of about half an inch along the tender part of the ciliary region of the primarily injured eye; a little vitreous escaped.

"Aug. 3.—Left the hospital perfectly cured. He could now read for hours together with comfort with his left eye, and all traces of the trifling operation on his right eye were gone.

"On October 24th a letter was received from the patient, stating that he could 'read for five or six hours at a time without any pain whatever;' that he is engaged in 'steel-turning, which is very trying to the eyes, but is happy to say that it does not affect him but very little.' The eyes do not water. He finds working by gaslight painful, but daylight does not affect the (right) eye in the least. He finds objects appear to him 'closer than they really are.'"

ART. 151.—*On Pigmentary Retinitis.*

By Dr. E. MOUCHOT.

(*Gazette des Hôpitaux*, No. 113.)

Pigmentary retinitis exists as a morbid entity, and consists in a chronic inflammatory affection of the retina.

It is characterized by three symptoms, which, when they are united, carry the diagnosis to the highest degree of certainty. These three symptoms are—nyctalopia, contraction of the visual field with conservation of central vision, and the presence in the retina of pigmentation of a characteristic form.

Pigmentary retinitis sometimes exists without the presence of pigment; this form will frequently follow the well characterized pigmentary retinitis.

The affection progresses very slowly; it generally commences in youth, and towards the age of forty or fifty years, or sometimes later, it ends in complete blindness. The diagnosis is very easy when the three chief symptoms are presented.

Pigmentary retinitis is a very serious affection, as it leads sooner or later to complete loss of vision.

Nothing certain is known about the causes of this affection. Often no explanation can be given of its appearance by the condition of the patient. Pigmentary as yet is an incurable affection. Alteratives do more harm than good; tonics, steel particularly, seem to have given satisfactory results.

ART. 152.—*On the Diagnosis of Diseases of the Eye by Retinal Chromatoscopy.*

By Dr. A. GALEZOWSKI.

(*Gazette des Hôpitaux*, No. 79, 1868.)

Anomalies in the faculty of perceiving and distinguishing colors have been recognized for a long time. Scientific men in all countries, and at different epochs, have pointed out this congenital visual defect, and given to it various names, such as Daltonism, from the physicist Dalton, who was himself the subject of this infirmity, achromatopsy (Heling), akianoklepsia (Goethe), color blindness (Brewster), dyschromatopsy (Taylor).

All these authorities, however, spoke merely either of the congenital condition of Daltonism, or of color blindness.

M. Galezowski has endeavored to demonstrate that morbid changes in the visual membrane of the eye may give rise to phenomena of blindness for some or all colors. These phenomena are so frequent, according to Galezowski, as to serve as characteristic symptoms for the diagnosis of certain forms of amblyopia.

In order to render an exact account of the impairment of the chromatic faculty of the eye, it is necessary to have a fixed scale of colors; such an one has not existed up to the present time. But M. Galezowski has arranged a table which contains the principal colors of the solar spectrum, disposed in the order adopted by M. Chevreul. The disposition of this chromatic table is very favorable for examining the eyes with regard to the perceptivity of colors; it enables one also to judge of the phenomena of the simultaneous or successive contrast of colors. Before passing to the study of the alterations of the retina and optic nerve, Dr. Galezowski gives a short analysis of the optical and physical law of colors, and attempts to explain the physiology of colored sensations by the law of dispersion of light in the cones of the retina. Up to the present time the theory of Dr. Thomas Young has been accepted. Helmholtz has developed and commented on this theory, and admits with Dr. Young that the eye possesses three kinds of proper nerve fibres for the perception and transmission to the brain of three different color sensations—red, green, and violet.

Durand accepts with Young and Helmholtz the theory of three principal nerve fibres, but thinks that these correspond to other colors than those admitted by Young. Thus, according to this author, there are red or erythric fibres, yellow or xanthic fibres, and blue or cyanic fibres.

According to Dr. Galezowski, neither of these hypotheses can be admitted, since they are not confirmed either by microscopical anatomy or by pathological facts. He endeavors to explain the faculty of perceiving colors by the decomposition of light in the cones. The cones, he believes, are the chromatic organs of the eye, and play the part of small prisms, which decompose the light, so that at the base of each cone concentric circles are formed of colors corresponding to the colors of the solar spectrum. White light plays upon the whole base of the cone, and gives the impression of mixed white. Each separate color, however, is not deviated by the surface of the cone except at a certain angle, and consequently is directed to, and proceeds to act upon the circle at the base proper to each color.

Dr. Galezowski has found a confirmation of his theory in the experimental fact demonstrated by Aubert and Foerster, that sensibility for colors is greatest at the macula lutea, and diminishes towards the periphery of the retina. We know that at the macula there exist only cones, whilst at the peripheral parts of the retina these bodies diminish in numbers more and more. At the periphery they are replaced by the rods, which are organs for the perception of light, but can give no idea of colors.

The following results have been obtained by Dr. Galezowski in his pathological researches upon retinal chromatoscopy:—

1. In retinal apoplexy the chromatic faculty of the eye is not altered except

when the effusions of blood are very large, or when they occupy central regions of the retina.

2. In albuminuric retinitis, partial blindness of color exists when the affection arrives at an advanced stage, and when the local changes involve the external membranes of the retina and the macula.

3. Disturbance of the chromatic faculty is observed in glycosuric retinitis.

4. In syphilitic retinitis and neuritis, whether accompanied or not by choroiditis, disturbance of vision is associated with blindness as to green color, and sometimes red.

5. Atrophy of the choroid does not give rise to this phenomenon unless the contiguous layer of the retina, particularly in the region of the macula, be disorganized.

6. In atrophy of the papilla perversion of the chromatic sense of the eye exists from the commencement, particularly for *red* and *green*.

7. The same thing occurs in alcoholic amblyopia, but with this difference, that in atrophy of the papilla the defect remains permanent, whilst in the latter form of amblyopia the chromatic disturbances vary daily and hourly, and are often characterized by phenomena of strange successive and simultaneous contrasts of color.

ART. 153.—*Treatment of Myopia.*

By CHARLES BADER, Ophthalmic Assistant-Surgeon to Guy's Hospital.

(*Natural and Morbid Changes of the Human Eye.*)

In speaking of the treatment of myopia, Mr. Bader says, in his valuable work on "*The Natural and Morbid Changes of the Human Eye*," that the functions of the myopic eye, as regards acuteness of sight, are most frequently impaired by undue distension of its tunics. Our advice must tend as much as possible to diminish the progress of the distension—i. e., the increase of the myopia. We therefore recommend the patient—*not to stoop when reading, &c.* Especially strongly myopic persons, as a rule, stoop when reading, &c., and hold objects nearer than is necessary for distinct vision. They must, to do this, converge the eyes strongly if both are used.

Stooping gives rise to congestion of the eyes, to increase of tension, and, through too great convergence, to pressure upon the already too thin coats of the eyeball. Patients should hold the head upright when reading, and place the book or paper, when writing, on a sloping desk. Particular attention should be paid to this in children. Objects must be held as far from the eyes as is compatible with distinct vision; and if that distance is less than ten inches, spectacles may be recommended in young myopics.

ART. 154.—*The Treatment of Glaucoma.*

By CHARLES BADER, Ophthalmic Assistant-Surgeon to Guy's Hospital.

(*The Natural and Morbid Changes of the Human Eye, and their Treatment.* London, 1868. Royal 8vo., pp. 505.)

Mr. Bader writes:—

"It has been found that if glaucoma be left to itself, or be treated medically only, or by inefficient surgical means, or at too late a period, that vision sooner or later is destroyed.

"Most oculists have adopted the operation of iridectomy as a remedy which, in numerous cases, has the effect of diminishing the abnormal tension of the eyeball. Every medical man should learn to perform this operation. In cases of acute glaucoma, where it is of the greatest service, and where immediate surgical aid is required, the difficulties of its performance are but few, for the textures of the eyeball are little altered, provided vision has been useful before the attack.

"The operation is more difficult if the textures are rotten, as in simple and

chronic glaucoma with much impairment of vision. The removal of a portion of iris is in itself a most harmless step, and never followed by serious consequences. No excuse exists for not performing the operation in acute glaucoma, especially if vision has been good before the attack.

"Persons who suffer from glaucoma, and whose sight is but little impaired, must be [made] acquainted with the usual course of 'the disease,' and with its more serious symptoms. Patients should avoid those things which cause irritation of the eyes, such as much reading, 'near-work,' mental excitement, sleepless nights, &c. We should urge the operation of iridectomy if we find the peripheral parts of the retina already impaired, or if attacks of dimness, with increased tension, appear at short intervals.

"Patients who have lost one eye by glaucoma are more readily induced to have the operation performed.

"The longer the operation is postponed the less favorable is the result.

"Secondary changes (mostly of an atrophic character) in the structures of the eye, brought on by long-continued pressure are not remedied by iridectomy.

"Accidents which may arise during the operation, such as hemorrhage into the retina, wounding of the crystalline lens, loss of vitreous, &c., diminish much the chances of success.

"As the result of careful examination of the retina, before and from six to eighteen months after iridectomy properly performed, the following conclusions have been arrived at:—

"(1.) That the operation may be recommended as long as there is perception of light; and, in acute glaucoma, even if perception of light has been lost for a week after the attack.

"(2.) That the usual causes of failure are—advanced structural changes of the optic nerve and of the retina; fresh increase of tension; hemorrhage, especially in the region of the yellow spot, or into the optic disk; and accidents during or immediately after the operation, as intraocular hemorrhage, &c.

"(3.) That in the majority of cases the amount of vision is preserved which the patient had before the operation, and that for months vision continues to improve.

"(4.) That the result is the less favorable the more the paralysis of the retina has approached the yellow spot, especially if it has done so more from above and below; or if the sensibility of the region of the yellow spot is so much diminished that the patient when looking at an object, turns the eye to one side ('eccentric fixation').

"(5.) That if we find the aqueous humor turbid, the transparency of the vitreous substance impaired, and the entire retina sensitive, a better result is obtained by iridectomy than if these are clear with a similar amount of impairment of vision.

"(6.) That in acute glaucoma the pain ceases almost immediately. (From four to six leeches should be applied at bedtime to the corresponding temple, if the pain returns soon after the operation.) The external 'inflammation' and the turbid state of the media, as a rule, disappear after from ten to fifteen days.

"(7.) That the less the eyes are used for near-work, the more satisfactory and lasting is the result of iridectomy."

ART. 155.—*Hypodermic Injection of Atropia in Threatening Glaucoma.*

By FRANCIS E. ANSTIE, M. D., F.R.C.P.

(*The Practitioner*, July.)

A special hypodermic application of atropia which appears to promise the most valuable result, is its use in painful iritis, and especially in threatening glaucoma. Dr. Anstie firmly believes that in two cases he has succeeded in preventing the latter affection from developing itself; at least the most threatening symptoms were present, and rapidly subsided under the use of one-sixtieth grain injections of atropia.

ART. 156.—*On Lachrymal Conjunctivitis.*

By Dr. X. GALEZOWSKI.

(Gazette des Hôpitaux, No. 108, 1868.)

Lachrymal conjunctivitis may be chronic or acute; the former is more frequent, and is characterized by excessive chronicity and persistence of the same symptoms for months and years. The following are the signs of this affection:—

a. Every morning the eyes water; the *alæ nasi* and angles of the eye are covered by crusts or mucosities.

b. When the patient awakes, the eyes are so sensitive to daylight, that there is much trouble in opening them. There is true photophobia, which lasts for five, ten, or fifteen minutes. As soon as the eyes have been washed with fresh water, the sensibility disappears.

c. The palpebral and ocular conjunctivæ are injected, particularly at the two angles, a vascular train often extends to the margin of the cornea, and leads to the supposition that phlyctenulæ are present.

d. The eyelids on the outside are generally healthy; sometimes the skin is reddened at the external angle.

e. In the morning the sensibility to light gradually diminishes, so that the patient is then enabled to follow his occupation. In the course of the day, immediately when the patient is exposed to broad daylight, it becomes impossible for him to bear the light of the sun; the photophobia is so great that dark glasses have to be worn.

f. At the same time there is lachrymation; but this often lasts only in broad daylight or on exposure to wind; in the shade or in a half-lighted room the lachrymation disappears. Patients when questioned on this point often give negative answers, thus rendering the diagnosis very difficult.

g. Towards the evening and with a bright lamplight, the same symptoms return; photophobia, sensibility of the eyes, a feeling as of gravel between the lids, and very marked conjunctival redness simulating catarrhal conjunctivitis.

h. All work in the evening becomes impossible. The patient feels as if he could fix nothing with the eyes; letters are doubled, and a mist appears over everything that he wishes to see.

i. The phenomenon of colored and variegated circles similar to "rainbow" circles about a flame, may appear, but it is not constant. It is due to an accumulation of the tears at the margins of the eyelids, which play the part of a prism decomposing the light.

k. Lachrymal conjunctivitis is a chronic affection; it lasts for years; the patients become gradually habituated to the inconveniences with which they are affected, and it is only at times that they are prevented from working by more serious attacks.

l. When the conjunctivitis is developed in aged subjects, or when it has lasted for many years, it may occasion an outward turning of the lids, and give rise to that form of ectropion which has been styled senile, but which is for us but a simple lachrymal ectropion.

m. Chronic lachrymal conjunctivitis may be suddenly transformed into a subacute conjunctivitis, and give rise to all the symptoms which characterize catarrhal conjunctivitis. The lids become swollen, there is abundant suppuration, pains in the eye, a sensation as if gravel were present, and all the remaining symptoms of this latter affection. It is perhaps on account of this resemblance that modern authors describe catarrhal conjunctivitis and simple conjunctivitis as one and the same affection. But as the cause of the affection which we are considering is mechanical, that is to say, as it is produced by tears remaining between the lids and setting up irritation, the treatment ought to be different.

The cause of lachrymal conjunctivitis exists in some part of the passages for the excretion of tears; sometimes it is a deviation, at others a contraction or obstruction of the lachrymal points or canals, or of the nasal duct. One may

readily make sure of this by injecting lukewarm water by the puncta lachrymalia. Whenever contraction or obstruction has been made out, the surgeon should at once resort to an operation for the purpose of restoring a free passage for the tears.

TREATMENT.—In this affection, as in many others of the eyes, the conduct of the surgeon should vary according to the symptoms presented by the patient. When contraction of the lachrymal passages has been once established, it is necessary to remedy this state of things without delay, by injecting warm water with a small Anel's syringe into the lachrymal passages, and by immediately, if circumstances permit, resorting to dilatation of the puncta lachrymalia by means of Galezowski's instruments, or rather by incising the lachrymal canal, and introducing graduated sounds into the nasal canal. By this radical treatment one succeeds in removing the lachrymation as well as the lachrymal catarrh. But apart from the surgical treatment, which is not always accepted by the patient, it is necessary that we should find some means which may alleviate the principal symptoms by which the subjects of lachrymal conjunctivitis are tormented. The use of cold compresses applied over the eyes, may afford considerable relief; whilst cataplasms and compresses of warm water which act so well in cases of catarrhal conjunctivitis, generally aggravate the former affection.

A pomade of fresh cucumber is a soothing application for the irritated lids, and prevents their agglutination during the night.

Of the collyria which may be advantageously employed against the simple or lachrymal phlegmasia, M. Galezowski prefers that of sulphate of zinc. He employs it generally in the following proportion:—

Distilled water, 100 grammes; sulphate of zinc, 0.25 centigrammes; to be applied to the eyes night and morning.

In subacute lachrymal conjunctivitis, some cauterization of the lower lid with a crystal of sulphate of zinc, and dilatation of the contracted lachrymal passages, will suffice for arresting this phlegmasia.

ART. 157.—*Carbolic Acid in the Treatment of Conjunctivitis.*

By E. L. HOLMES, M. D.

(*American Journal of the Medical Sciences*, October.)

Dr. E. L. Holmes states (*Chicago Medical Examiner*) that he has been induced to try the carbolic acid in diseases of the conjunctiva, and he says that he has "found in about a dozen cases, at the infirmary, both of acute, and especially of chronic inflammation, that the patients made a good recovery under its use.

"It is doubtful whether it possesses any advantage over the ordinary astringents, and yet it may be a desirable agent in cases where the usual applications fail. In two cases of purulent conjunctivitis, its use between the applications of nitrate of silver, after the latter had been tried two days, seemed to rapidly overcome the excessive discharge of pus. Possibly, its antiseptic properties may aid in destroying any specific poison that may exist.

"When applied, in a saturated solution, to the conjunctiva, as also to the mucous membrane of the mouth, it produces an intense burning pain, which almost invariably subsides in a few moments. It produces a thin, white pellicle on the surface where it is applied, which is soon cast off, leaving scarcely any irritation.

ART. 158.—*Sulphate of Soda as a Means of Removing Opacities of the Cornea.*

By HENRY POWER, M. B., F. R. C. S.

(*The Practitioner*, September.)

Mr. Henry Power reports favorably the efficacy of the sulphate of soda for removing the curable forms of opacity of the cornea. It is well known that

while superficial opacities, the result of recent inflammation, especially in children, will often disappear through the influence of the natural powers; while those opacities produced by burns or caustics, or which are the result of perforating ulcers with adhesion of the iris, are permanent. In those forms of diffused haziness resulting from hypertrophy of the corneal epithelium, or where the spaces between the lamellæ are enlarged and filled with nuclei and imperfectly formed cells, proceeding from the proliferation of the ordinary corpuscles, after the inflammation has subsided, local stimulants may be useful.

Mr. Power says that not more than one or two grains of the sulphate of soda should be applied to the eye at any one time, and that the most convenient mode of application is to invert the upper lid and brush the powders lightly over the surface with a camel's-hair brush. This may be repeated daily, or on every second or third day, according to the degree of reaction which follows. The immediate effect is, he says, to produce a considerable degree of redness and sharp smarting pain, with lachrymation, lasting half an hour or more. In some cases the reaction is too violent, in which case the salt may be mixed with a little starch, or it may be applied in solution, five grains to four ounces of water.

ART. 159.—On the Examination of Patients suffering from Deafness.

By THOMAS SMITH, F. R. C. S.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Char. Review*, October.)

In this paper Mr. Thomas Smith, who disclaims the character of a specialist in diseases of the ear, describes generally the affections to which that organ is liable, and the methods by which they are most readily investigated. He draws a comparison between the eye and the ear to prove the essential difficulty attendant upon the investigation of diseases of the latter as compared with the former, the one organ presenting a number of transparent structures which are easily seen, and the other having nearly all its structures concealed in bony cavities. Mr. Smith describes the instruments necessary for investigating diseases of the ear, and shows that they need be only few in number and simple in construction, and he gives directions as to the inquiries which should be made of the patient when examining into the history of the disease. The use of an ordinary watch is available for ascertaining generally the existence and the degree of deafness; but in exploring the condition of the external meatus, a small concave mirror may be used, together with the simple tubular speculum of Sir W. Wilde. To ascertain the patency of the Eustachian tube, the patient should blow air into the tympanum while the surgeon listens, by means of the otoscope, to the effect produced. The Eustachian catheter is also described by Mr. Smith, and also the mode of introducing it, which is a matter of some difficulty, to be overcome only by practice upon the dead subject, or on an anatomical preparation.

ART. 160.—On Two Methods of Removing Foreign Bodies from the External Auditory Meatus.

By A. GARDINER BROWN, M.R.C.S.

(*Medical Times and Gazette*, August 8.)

Where the substance to be removed is not too tightly impacted in the meatus, atmospheric pressure (suction) may often advantageously be had recourse to in the following way: A few inches of French vulcanized rubber tubing, of a size to fit the meatus easily, but not loosely, is cut at one end with a pair of sharp scissors in such a manner as to make it fit the visible surface of the foreign body somewhat neatly when pushed gently against it in the meatus. The end of the tube, before introduction, is moistened, and the direction of any inclination of the seen surface of the foreign body accurately determined, so that

the cut end shall be properly applied to it. Suction, for the purpose of extraction, is now to be made use of in one of the following ways: An assistant is to attach an ordinary ear syringe (the piston being home) to the other or free end of the tube, and make gentle suction by drawing out the piston-rod. Or the mouth may be applied to the tube. Suction thus produced is extremely convenient, but not advisable if the presence of the foreign substance have set up any suppurative action or other discharge. Or let the left hand of the operator rest comfortably on the side affected of the patient's head, which must be well supported; gently but firmly grasp the rubber tube (nicely applied as before) with the thumb and forefinger of the same hand close up to the meatus; starting from this point, run the corresponding digits of the right hand somewhat rapidly along the tube to near its end, pinching it firmly at the same time to exclude all air. The vacuum just made will act on the substance to be removed immediately the pressure of the left fingers is discontinued.

The above method requires some practice and nice manipulation in order to insure success. If thought desirable, the vacuum may be produced by connecting a piece of the rubber tubing to a phial by means of a cork pierced with a short glass tube, then removing the air by spirit lamp, as in cupping, or by boiling water. To obviate the tendency which rubber tubing has to collapse under atmospheric pressure, the greater part of the length employed may be substituted by quilled-glass tubing, this latter being only tipped with the former.

Where the foreign body is spherical, it may often be successfully removed by a rolling-out plan being attempted in the following way: Select a curved suture needle with a broad but thin point, and rub this extremity on a steel surface (as the blade of a knife), so as to allow the finger, when passed along its concave surface, to feel a slight "burr" or turning-over of the point. The operator is now armed with a microscopic hook of great relative power, and one which will hardly ever refuse to pass between the wall of the meatus and the obstructing body. This instrument should always be passed at the point of the circumference of the foreign body which presses least on the meatus, this being generally, Mr. Brown believes, either above or below when the form is spherical. The rolling-out process requires the needle to be inserted some five or six times over the object, especially when deeply seated. Care must be taken that the "burr" is well brought over the point of the needle in preparing it, or the repeated introduction will push the substance in further or as far as the traction brings it out.

ART. 161.—*On the Application of Galvano-caustic in Affections of the External Ear.*

By Dr. SCHWARTZE.

(*Archiv für Ohrenheilkunde*, 1868, Bd. 4, Hft. i.; and *Gazette Hebdomadaire*, No. 35, 1868.)

Among the chronic affections of the external ear, granular growths of the auditory canal or tympanum necessitate surgical interference. For a long time practitioners have performed cauterization with nitrate of silver, caustic potash, and even chromic acid; but it has been observed that these different plans of treatment present serious difficulties, due either to the necessity for repeated applications of the caustic agent, or to the severe and persistent pain which is commonly the consequence of such proceedings.

Dr. Schwartze finds in galvano-caustic a method for the treatment of granulations which is at once very rapid and very sure. The principal advantages of this proceeding are the following: in the first place the short duration of the treatment, whilst it requires several months for the complete destruction of granulations with ordinary caustics, one month may, in cases of granulations of the canal at least, destroy the morbid growth by a single application of the galvano-caustic. In the second place the duration of the pain is diminished. Although at first the pain of the cauterization is more severe than that caused by the employment of nitrate of silver, the inflammatory reaction is never com-

parable to that set up by the latter caustic. Finally, no relapse is to be feared, if a single application of the galvano-caustic has been sufficient. Dr. Schwartz has never observed any cerebral complications after the employment of the galvano-caustic.

ART. 162.—On Removal of the Entire Tongue.

By **SAMPSON GAMGEE, F.R.S. (Edin.)**, Surgeon to the Queen's Hospital, Birmingham.

(*The Lancet*, November, 14.)

Subjoined is the history of a case in which Mr. Gamgee removed the entire tongue, with no better result, he states, than most of his predecessors:—

Henry S—, aged fifty-two, a laborer, was admitted into the Queen's Hospital, from Stratford-on-Avon, on the 26th of August last. The patient, a spare-built but florid-looking man, was married, and the father of seven living children. He had always enjoyed excellent health up to twelve months last past, when he began to experience shooting pains in the ear and down the neck. Shortly afterwards his tongue became sore, and on examining it he found a small, well-defined, roundish lump, with ulcerated surface, on the left side of the tongue. It has continued to extend ever since, and has occasioned great pain and difficulty in swallowing. About three months after its first appearance he applied to a medical man, who extracted two sound teeth in the lower jaw because they hurt the tongue. Five months later (four months before admission) the disease began to spread with considerable rapidity, and bled very much. When first seen by me, the patient had a deep excavated ulcer, of oval shape, involving the anterior two-thirds of the left side of the tongue. The edges of the ulcer were thick, raised, everted, and irregularly notched; its floor was foul, and studded with pea-shaped, tuberculous granulations, discharging a thin, ichorous fluid. There was great fetor of breath, and profuse salivation. No implication of structures at the floor of the mouth, or apparently of neighboring glands. General health much impaired in consequence of inability to take solid food.

A great variety of means were employed with a view to improve the general health and the character of the ulcer, but as they all failed, I operated on the 3d of October. The patient, having been previously shaved, was placed upon a table, and rendered completely insensible with chloroform administered by Mr. Snow and Dr. James Hinds. The shoulders being raised and the head thrown well back, standing on the right side of the patient, I made a semilunar incision along the base of the lower jaw, commencing at the symphysis, and extending it outwards on either side to a point just anterior to the facial artery. A second incision was carried vertically downwards from the centre of the jaw to the hyoid bone, at right angles to the first. The triangular flaps thus marked out (consisting of skin, areolar tissue, and the anterior fibres of the platysma myoides) were dissected down. A narrow-bladed knife was then thrust in the mesian line close behind the bone, from below into the mouth, and swept along the inner surface of the lower jaw, as far as the posterior limits of the first incision, to divide the attachments of the muscle, and the buccal membrane. An opening of sufficient extent being thus effected into the floor of the mouth, the tongue was drawn down upon the anterior part of the neck, and secured by my friend and colleague, Mr. J. E. West. The tongue being raised, I thrust a narrow-bladed knife through the raphe from below, just in front of the hyoid bone, into the mouth. Withdrawing the blade, I passed one by one two *écraseurs* through the wound, fixing one on the right half of the tongue, the other on the left, just in front of the anterior pillars of the fauces; the left one was tightened clearly, though only a couple of lines, behind the posterior limits of the disease. My colleagues, Mr. Furneaux Jordan and Mr. J. St. S. Wilders, took respective charge of the left and right *écraseurs*, tightening each alternately, at intervals varying from half a minute to a minute. Though the process of division was slow, no sooner did the *écraseurs* become detached than a large quantity of blood welled out of the wound, and the patient became very pale. I introduced my thumbs into the fauces, bringing forward the mucous membrane and grasping it together with the flaps which had been dissected down from the submental region. I thus attained two objects: compressing the bleeding surfaces and bringing the tongue well forward; the flapping epiglottis was in full view, and the risk of blood entering the trachea was averted. The surface of the wound and the stump of the tongue were immediately mopped with styptic colloid, a triangular

lump of ice held in the mouth, with a pair of forceps, long hot flannel stockings slipped on the arms, a hot blanket wrapped round the legs, and a brandy injection at once administered per rectum. After all oozing had ceased, the patient was carried from the theatre to the ward, where another brandy and beef-tea injection was given at once. 8 P. M. (three hours after operation): Reaction fully established; skin hot and moist; pulse 120, full; temperature $102\frac{1}{2}^{\circ}$; respiration 36. Injection of beef-tea and brandy to be continued every two hours. 7 P. M.: Pulse 184; temperature 104° ; respiration 28. The glazed flaps were gently brought together and made to meet by silver sutures in the transverse line; the vertical incision was likewise approximated above, the lower angle being left open for free escape of secretions.

Oct. 4th. 9 A. M.: Passed a comfortable night; slept at intervals; no bleeding. Pulse 104; temperature $100\frac{3}{4}^{\circ}$; respiration 32. Injections to be continued every fourth hour. 10 P. M.: Hemorrhage rapid and profuse from the mouth. The quantity lost must have been considerable, for not only was the pillow saturated with blood, but a good deal was spilt on the floor. Dr. Jolly stanching the flow by steady pressure on both carotids for about two minutes, which produced instant syncope. A short time after a warm water and brandy injection the circulation became more developed, and there was no recurrence of the bleeding.

5th. Free from pain; wound looks well, and is for the most part healed. Thirst relieved by moistening his lips with ice; drank a cup of milk this morning. Pulse 118; temperature $101\frac{1}{2}^{\circ}$; respiration 28.

6th. Had an opiate last evening; nevertheless the night has been somewhat restless. Pulse 124; temperature $102\frac{3}{4}^{\circ}$; respiration 24. Injections discontinued. The patient takes a cupful and a half of milk every four hours.

8th. At times the man wanders, but speaks collectedly when aroused. Pulse 116; temperature $100\frac{1}{2}^{\circ}$; respiration 28. Takes milk, arrowroot, and calf's foot jelly freely.

9th. Passed a restless night. Face flushed; expression of countenance anxious. Wound has opened up again along the base of the jaw; stitches removed, and strapping applied. There is a considerable swelling below and behind the angle of the jaw of the left side. Pulse 128; temperature $101\frac{1}{2}^{\circ}$; respiration 24.

10th. Was restless during the night, and the stomach became exceedingly irritable, even to frequent vomiting. Ordered a draught, containing two drops of hydrocyanic acid, in a little mint water, which remained on the stomach; in an hour afterwards also to take some warm brandy and water. Feels very low. Pulse 128, soft and feeble; temperature 101° ; respiration 30.

11th. Worse: debility increasing; features sunken; pulse 138, scarcely perceptible. Temperature $100\frac{3}{4}^{\circ}$; respiration 38.

12th. The patient gradually sank, and died at 2 A. M. this morning.

Examination of the tongue.—On looking down on to the dorsum of the tongue, Mr. Gamgee writes, the right side appeared perfectly healthy, while the left side presented a foul excavated sore, reaching posteriorly to within one-eighth of an inch of the line of incision, on the under surface to within two lines of the raphé, on the upper surface to within three lines of the middle line. The disease extended nearly to the tip. The left side of the tongue was greatly thickened, being an inch and a half in depth, while the healthy side was barely three-quarters of an inch. Nearly the whole surface of the left half of the tongue consisted of an ulcer, with the edges sinuous and undermined, foul, and sloughy. The diseased part was horny on section. On cutting horizontally through the tongue, tubercular nodules were seen extending from the deeper parts of the ulcer towards the median line, and apparently resting in healthy tissue. These nodules were firm, and of a yellowish-gray color. On microscopic examination of the juice obtained from a surface of the section, it was found to contain nucleated cells of the size of blood-cells, and free nuclei; also large epithelial cells of various shapes, with two or three nuclei each, some of the cells being spherical, others ovoid, fusiform, or polygonal. A thin section showed irregular nucleated cells, lying side by side, and held together by fine fibres. Some of the cells contained oil-globules, and appeared shrunken. There were no distinct broad cells filled with large nuclei, and no laminated corpuscles.

Autopsy, Oct. 15th.—Stump of tongue in a healthy state; but the soft parts forming the floor of the mouth were in a very sloughy and unhealthy condition.

Corresponding to the swelling behind and under left angle of jaw was an indurated lymphatic gland, a section of which presented characteristic cancer cells. Thoracic and abdominal organs perfectly healthy. Lungs crepitant throughout, sections from both bases floating well on water.

The rapid enlargement of the gland beneath the jaw after the removal of the tongue was, Mr. Gamgee says, a striking fact. Though not noticed during life, the gland must have been slowly on the increase some time; and the malignant deposit with which it was infiltrated somewhat lessens regret at the poor man's speedy death, for he could not have survived the glandular disease many months. Such a complication militates against the operation, but, even if suspected, would not in Mr. Gamgee's opinion necessarily be a bar to it.

With the incisions for the submental aperture according to Regnoli's directions Mr. Gamgee is quite satisfied, for they fulfil the great indication of giving plenty of room without involving considerable vessels or important structures; they permit of the safe administration of chloroform throughout the operation, bring into view the whole extent of disease, and place under command the possible sources of hemorrhage. Professor Regnoli ligatured the stump of the tongue in several portions before he excised, and his case made an excellent recovery. It was not until four years later that cancer returned in the tonsils and proved fatal.

With the *écraseur* Mr. Gamgee was not satisfied, and should not employ it again in a similar case. The bruising it inflicts is an evil only tolerable if the use of the instrument guarantees safety from hemorrhage. The patient lost a good deal of blood during the operation, and would have died from secondary hemorrhage the next day but for Dr. Jolly's prompt compression of the carotids. The *écraseurs* were certainly not tightened quite so slowly as M. Chassaignac directs; but Foucher has recorded a case of partial removal of the tongue by two *écraseurs* worked at intervals of one minute, so that fifty minutes were required to effect the section; nevertheless, hemorrhage was so profuse as to necessitate ligature of the external carotid.

ART. 163.—*Treatment of Common Alveolar Abscess.*

By CHRISTOPHER HEATH, F.R.C.S., Assistant-Surgeon to University College Hospital, and Teacher of Operative Surgery in University College, London.

(*Injuries and Diseases of the Jaws: the Jacksonian Prize Essay of the Royal College of Surgeons of England, 1867.*)

In speaking of this troublesome affection, Mr. Heath says: "When the inflammation is due to a diseased tooth, extraction of the tooth, or stump of a tooth, should be immediately performed. There is a popular notion, which has received some support at the hands of some members of the profession, that extraction of a tooth must not be performed during the stage of active inflammation of the alveolus. I know of no ground for this statement, which is entirely devoid of truth. . . . No greater mistake can be made than to encourage the pointing of an alveolar abscess on the surface of the skin by poulticing. During the early and acute stage of the inflammation, the warmth of a poultice may be grateful to the patient, and if applied for a few hours will do no harm, though I should myself greatly prefer the application of extract of belladonna and glycerine (two drachms to half a drachm); but continued poulticing will merely lower the vitality of the part, and tend to the very result which is to be avoided if possible. Even when the skin is already reddened and adherent to the bone, its breaking may be avoided (provided a free exit for the discharge of matter into the mouth has been secured) by painting the surface with iodine and avoiding all warm applications."

ART. 164.—*Abscess in the Cheek extending into the Skull.*

Under the care of Dr. MACKENZIE BACON, of the Cambridge County Asylum.

(*Medical Times and Gazette*, November 21.)

In this case, Dr. Bacon remarks, a very ordinary ailment took an unusual course, and proved rapidly fatal. It could hardly, perhaps, be predicted that an abscess around a carious tooth should extend into the skull, traverse the base, and terminate in the orbit of the opposite side; yet this is what happened, and the post-mortem left no doubt as to the actual course of events. The outline of the case is as follows:—

A man aged 45, a patient in the Cambridgeshire Asylum, had in June, 1868, the left side of his face swollen in consequence of an abscess around the last tooth in the lower jaw on that side. The patient was a general paralytic, in feeble health, and in an advanced stage of dementia. He said very little, and was very dull and apathetic. After a few days the abscess burst inside the cheek, and the swelling subsided; but a few days later, on looking at the man one morning, it was noticed that his right eye was prominent, the whole orbit being distended, and the globe bulging out. This increased the next day; the conjunctiva projected above the level of the cornea, and was congested, and the skin around became livid. The patient got gradually comatose, and died in two days.

Post-mortem Examination.—On opening the skull, which was very dense, the brain seemed tolerably healthy to the naked eye, but on removing it, a broad patch of discoloration was seen at the base where it rested in the middle fossa of the skull, more extensive on the right lobe than the left. The damaged part was dark from decomposition, and covered with fetid pus. A broad line of dark, fetid, decomposing tissue, with pus, could be traced from the left ala of the sphenoid across the sella turcica into the right orbit, which was distended with pus and fluid. The line of inflammation was afterwards traced downwards through the superior maxilla and muscles of the cheek to the last alveolus of the lower jaw, where was a loose, carious tooth surrounded by pus. Around this tooth was a mass of fetid tissue, to which the mischief had been at first limited.

ART. 165.—*On Luxation of the Inferior Maxilla.*

By Dr. MATHIEU.

(*Archives Générales de Médecine*, August, 1868.)

1. All the elevator muscles of the lower jaw act either as direct or indirect retractors of the condyles, when these have been carried forwards.
2. These retro-elevator muscles oppose luxation, which might be caused by depression of the jaw, and facilitated by apposition of the angles of the lower maxilla to the mastoid processes.
3. The amount of inclination in the anterior part of the transverse root of the zygomatic process never suffices for the prevention of spontaneous reduction of a luxation.
4. It is scarcely probable that the contact of the coronoid processes with the malar bones forms the only cause of permanence in the luxation.
5. Division of the posterior fibro-glenoid ligament produces an exceptional and movable luxation of the condyle and meniscus.
6. Forced depression practised upon a joint deprived of its elevator muscles always causes the condyle to pass in front of the meniscus.
7. This sub-meniscoid luxation may result from detachment of the internal tubercle of the condyle without rupture of a single ligament.
8. The meniscus fixed upon the transverse apophyses of the zygomatic process after displacement of the condyle, forms the real impediment to reduction.

9. The contact of the molar and coronoid projections is a frequent consecutive result, but is not an indispensable occurrence with luxation of the condyles without the menisci.

ART. 166.—*The Treatment of Tongue-tie.*

By C. F. MAUNDER, F.R.C.S., Assistant-Surgeon to the London Hospital.
(*The Lancet*, August 8.)

The method which Mr. Maunder has been in the habit of employing to remedy this malformation is to tear or lacerate the membrane with the fore-finger. The finger is, of course, introduced into the mouth to ascertain the existence of the deformity, and this is no sooner recognized than pressure directed downwards and backwards towards the floor of the mouth (the finger-nail resting on the frænum), tears the latter, and the object is effected. This means, Mr. Maunder remarks, is very simple, can be carried out under the veil of making a digital examination, and as no surgical instrument is employed, is highly acceptable to mothers.

ART. 167.—*Treatment of Enlarged Tonsils.*

By J. MASON WARREN, M.D., Surgeon to the Massachusetts Hospital.
(*Surgical Observations, with Cases and Observations; and Medical Times and Gazette*, October 3.)

Dr. Warren is an advocate for excision of tonsils, and states that he has performed this minor operation more than five hundred times with satisfactory results. In cases of enlarged tonsils with otorrhœa, deafness, difficulty of respiration, and other disturbances caused by obstruction to the free ingress of air, partial removal of the affected glands has given great relief. The following are his conclusions on the results of such treatment:—

“From a review of a large number of cases, I find that many of the children were of a scrofulous constitution; that the enlargement of the tonsils caused great local trouble, attended with considerable constitutional disturbance; that the patient was much more liable to inflammatory attacks of the throat than in cases where this condition does not exist; and that they were less liable, after the operation, to these attacks.

“In about half of all the cases, and in about two-thirds of those of children, deformity of the chest existed. Whether this depended on the general constitutional habit of the patient, or was induced by the obstruction in the throat to the free passage of air, the accounts received as to the exact time when either affection was first observed were not sufficiently accurate to justify a decision. It is certain, however, that this deformity does not increase, but rather diminishes, after the removal of the obstruction in the throat. The operation is a simple one, attended with no danger, and almost always affords immediate relief to the symptoms.”

The instrument generally used by Dr. Warren is a guillotine without any steel movable needle for piercing the tonsil, as this is thought to be a useless addition.

ART. 168.—*Treatment of Hare-Lip.*

By MAURICE H. COLLIS, M.D., F.R.C.S.I., Surgeon to the Meath Hospital and County Dublin Infirmary, &c.

(*Dublin Quarterly Journal of Medical Sciences*, May.)

Dr. Collis writes:—

The rules for my operation are—

1st. Never to interfere with the true frenum. It is not only unnecessary to divide it, but most pernicious.

2d. Freely to divide all false frena, and if the alar cartilage is misplaced, let the incisions separate it freely, so that it may be fairly drawn into its proper place.

3d. Never to attempt to close the lip so long as the inter-maxillary bone is misplaced to any extent.

4th. To preserve and utilize all the parings. They are all wanted, as they all have their proper place; to this point I will revert at length.

5th. To use interrupted sutures, and discard all pins or needles as far as possible.

6th. To leave the line of union exposed, using no dressings or plasters for some days.

“And now to justify these rules:—

“1. I never divide the true frenum. Its obvious use is to steady the lip, to prevent muscular action from drawing the centre of the lip away from its proper place. Let any one with his finger or tongue try on his own lip what the uses of the frenum are. The division of the frenum unsteadies the lip, makes it tend to run into a string, and, in many cases, leaves a permanent fistula into the nostril. It is, moreover, quite unnecessary, as the parts can be brought into perfect apposition without meddling with it.

“2. I freely divide all adhesions or false frena, and I subcutaneously separate all attachments of the ala nasi to the bone which interfere with the proper formation of the nostril. The advantages of this are so obvious that I need not dilate upon them.

“3. Before paring the margins, the intermaxillary bone should be placed exactly in the centre, if not so already. Where there is fissure of the hard palate there is always this displacement. I generally manage this part of the operation by detaching the bone on the sound side by means of a narrow gouge. A strong forceps, with the blades protected with chamois leather, will then force the bone into position. As the nutrient vessels run along the mucous membrane, and chiefly on the inner surface, the gouge is the best instrument for loosening the bone. It may be used freely in this subcutaneous or submucous fashion; in fact, the more freely the bone is loosened the more easy is it to get it into position. The instrument has the advantage of being efficient and simple—no small recommendations now-a-days.

“4. I never throw away a particle of the parings. My incisions are made so as to make every fragment of them useful. On one side they are preserved to make the lip thick, and on the other to increase its depth.

“5. I use, as a rule, sutures of horse-hair, as being less cutting than wire, and less irritating than silk or thread. Pins, except very fine insect pins, I have discarded. Even these I use but rarely. A well-tied suture holds the parts together with sufficient firmness. It can be removed at any time, whereas the pin must remain until it becomes loosened in its bed by suppuration; hence the mark of a suture is trifling compared with that left by a needle or pin. The spot which requires a pin most frequently is the ala of the nostril. It tends to revert to its old position with more force than the lip, and it often needs the stronger pull of a pin.

“I generally insert the upper suture first, then the one close to the line of junction of the red and white, then the two intervening sutures; in the order that seems most suitable in each case. Sometimes I have inserted a suture on the inner or mucous surface of the lip. Sometimes this is not necessary. Generally I put a fine suture just along the free margin to keep the lower flap in its new bed until it contracts adhesion there.

“The sutures are removed one after another; those near the margin first, the upper two last. As to time of removal much will depend on the age of the child, and on the firmness of its flesh. Thus in a strong child a suture may be left three or four days, while in one more delicate it may have to be removed in forty-eight hours. Sutures should never be left long enough to ulcerate.

“6. By this treatment of the sutures, plasters and dressings are dispensed with until some days have elapsed. They are applied only when the sutures are removed, and with a view to prevent the lip from thinning. I generally find that all the wound heals by first intention, and the presence of plasters.

rather interferes with this process, at least so long as the sutures are left. When plasters are used they have to be removed when we wish to inspect the lip, and their removal disturbs the delicate process of union. By leaving the lip uncovered we can watch the progress of the cure, and it is easy to apply a strap at any moment if it be really needed. The use of Hainsby's truss will, in most cases, make it quite unnecessary to use plasters of any kind. Collodion is sometimes useful, but it should be made very thick. The ether in thin collodion acts injuriously on the healing process.

"As to the age for operating, I have done so successfully in a child under three weeks, and I have seen others of twice as many months in whom I refused to operate. The question is entirely one of the strength of the child, and the firmness of its flesh.

"With regard to complicated double hare-lip, the first point to be attended to is, in like manner, the strength of the child, which, as a rule, is far below par. When, by careful feeding, this has been brought up to a proper state, the protruding intermaxillary bone has first to be replaced. It should never, under any circumstances, be removed. This is, in fact, so well established an axiom of surgery, that it need not be insisted on. It is not always easy to bring it into its proper site. There are three methods to choose from: one is to separate it completely from all bony attachments, and to leave it for a time pendulous, adherent only to the central portion of the lip. This is the best way when practicable. The second is to take a V-shaped piece out of the vomer. The third is a new method which I have tried, and which has the advantage of helping materially to lessen the gap in the palate. It consists in cutting off an oblique portion of the vomer along with the intermaxillary bone. Whichever method is adopted, the bone is best left undisturbed for a few days after this stage of the operation. Nothing is more fatal to success in these cases than the effort to do too much at a time. A few drops of ether will sufficiently anesthetize the child to prevent its being frightened by repeated operations; success of the highest kind can only be obtained by doing the operation bit by bit. It is easy no doubt to conclude all at one sitting—but not to conclude all well. I therefore advise that, as a rule, the bone when detached in any of the above methods, should be left undisturbed for a few days before any attempt is made to push it back or retain it in its new position. Yet if it goes back easily, the remainder of the operation may be done at one sitting.

"I treat the middle bit of skin as in simple hare-lip, paring its margin in a curved manner, and leaving the parings attached by the mucous membrane; the outer portions are treated exactly as in single hare-lip, and the sutures are practically the same. In double hare-lip they are best inserted, and tied from below upwards. The amount of the central portion which can be made to contribute to the lip, is never very great, and the strain on the upper portion of lip is often very considerable. In these cases the use of Mr. Hainsby's truss is of the greatest service."

ART. 169.—Case of Removal of Fibrous Polypus attached to Base of Skull.

Under the care of Sir WILLIAM FERGUSSON.

(*Medical Times and Gazette*, August 22.)

This case is worthy of notice, and not merely from a pathological point of view. Years since, when Liston first advocated the entire or partial removal of the superior maxillary bone, the line of incision was made from the angle of the mouth on the affected side up to the zygoma. This wound, when healed, left an imperishable scar, and remained a great disfigurement during the patient's life. Sir William Fergusson was, we believe, the first who suggested that quite as much room might be obtained by carrying the knife up the mesial line of the upper lip, around the ala of the nose, and along the side of this organ towards the inner canthus of the eye, from which point the incision might be

extended, if necessary, along the fold at the lower margin of the orbit. This mode of procedure obviated all disfigurement, as the incisions are made in the natural depressions of the skin.

James H——, aged nineteen, a sailor, was admitted into the Victoria Ward of King's College Hospital, June 11, 1868, with a swelling in the upper jaw. The history was as follows: Two years since he had some sharp, darting pain in his right cheek, and that side of the face began to swell. The pain left him in a short time, but the swelling gradually increased both in size and hardness. From its original situation, just above the angle of the lower jaw, the enlargement spread upwards and inwards rapidly, and lately he has been unable to blow through either nostril. On admission, the patient appeared a strong healthy young man. The tumor extends from the angle and lower border of the inferior maxillary bone up to and beneath the zygoma of the right side, and forwards to the nose, the chief prominence being over the malar bone. However, the antrum does not appear enlarged, the alveolus and teeth are quite firm, and the roof of the mouth seems in its normal state; both nostrils are blocked, and the septum is pushed over to the left side. This case was watched with much interest for some time, and it was found that the growth increased rapidly, though the patient suffered but little pain. There was so much about the tumor that was doubtful about the seat and character, that it was not till a month after admission that Sir William Fergusson determined to operate upon it.

July 11.—Sir William slit the upper lip open exactly in the mesial line, in the hollow under the columna, and then carried the knife along the right side of the base of the columna; then turning the incision upwards, he took the knife along the right side of the nose to within half an inch of the inner canthus of the eye. The soft parts being dissected from the bone and turned outwards quickly—for there was a great deal of hemorrhage—a square piece of bone was removed from the superior maxilla by means of the saw and cutting pliers, and the back of the nose opened. (There was still very much bleeding.) Through the opening thus made, a strong pair of polypus forceps, introduced backwards and downwards towards the base of the cranium, succeeded in extracting a small portion of a polypoid growth. Then, by the employment of a smaller pair of forceps, a huge polypoid mass was seized and extracted, and then it was found that the external bore no relation to the internal disease—in fact, that there were two separate diseases. The polypoid growth was irregular in shape, and connected with the base of the cranium by a thick pedicle: it was of the fibrous kind.

At this stage of the proceedings, the patient became so blanched from loss of blood that it was deemed inadvisable to interfere with the tumor which existed externally; so the cut lip was a twisted silk suture over two hare-lip pins in the usual way, and the wound's edges brought together by sutures.

Remarks by Sir W. Fergusson.—Sir William Fergusson said it was a very interesting case in a pathological point of view, one that was exceedingly difficult to form a correct diagnosis of, and one which he had approached, even with his large experience in "upper-jaw" cases, with much diffidence. Here was a large external tumor, involving great part of the right cheek and running up under the zygoma; and, while the antrum did not appear to be the original seat of the disease, as the alveolar ridge and teeth were firm, and there was no bulging of its walls, yet both nostrils were blocked up, and the septum nasi was pushed over to the left side. After much consideration, the only explanation that could be arrived at was this—that, by a strange coincidence, two diseases of a separate nature and different seat had been simultaneously developed, one on the inside and one on the outside of the jaw on the same side. This view was entirely borne out by the operation. The internal disease consisted of a huge fibrous mass growing from the base of the cranium, and attached thereto by a broad pedicle. It was in close juxtaposition to the internal maxillary artery, so that no great force for the removal of the growth could be used, lest damage should accrue either to the vessel or to the numerous important structures of the vicinity. Sir William Fergusson added that considerable hemorrhage always attended extensive operations upon the upper jaw, and that generally this was of no consequence, but that here the bleeding had been so profuse that he thought it only right to postpone the further operation for the removal of the secondary external disease until some future day.

Notes of Case continued.—The operation was performed at 8 P. M., and at 5 P. M. the patient was somewhat recovered from shock. However, his pulse sank again, and large quantities of brandy were administered—viz., $\frac{3}{4}$ every hour. During the evening of the same day he vomited nearly eighteen ounces of blood, which, no doubt, he had swallowed during the operation. The vomiting went on more or less all night.

July 12.—Patient rallied considerably. But little vomiting, and the pulse much stronger.

13th.—Patient quite recovered from shock. Takes his food well. The wound looks very well. There has been no bleeding since operation.

14th.—The hare-lip pins removed. Patient expresses himself as feeling quite well in health. Has a good appetite.

16th.—Stitches at the side of the nose removed; union has mostly taken place by first intention along the line of incision. From this time the patient had not one bad symptom; the wound healed rapidly, and he was discharged on July 31, with instructions to return to town in the early part of the winter, in order that the tumor (supposed fibrous) on the outside of the jaw might be removed also.

ART. 170.—*A Case of Dilatation of the Œsophagus.*

By Professor LUSCHKA.

(*Virchow's Archiv*, xlii., 1868; *Schmidt's Jahrbücher*, No. 7, 1868.)

Professor Luschka discovered complete dilatation of the œsophagus on post-mortem examination of a woman, fifty years of age, who ever since her fifteenth year had been able to bring up without difficulty the contents of the stomach; at a later period the regurgitated food had been subjected to a process of rumination. Of late years she had suffered from frequent hemorrhages and from cancerous degeneration of several lymphatic glands, which resulted in great debility, pulmonary œdema, and ultimately death. The œsophagus was dilated into a kind of stomach-like sac; when extended it measured from the lower margin of the posterior surface of the cricoid cartilage to the œsophageal foramen, 46 centimetres. As the normal length of this tube is 29 centimetres, and never in the largest male bodies exceeds 33 centimetres, it must have taken a very curved direction. The dilated œsophagus, which proved to be a spindle-shaped sac, in its middle and widest part measured 30 centimetres in circumference, and $14\frac{1}{2}$ centimetres in breadth. Under normal conditions a distended œsophagus forms a tube about two or three centimetres in thickness, and seven and a half centimetres in circumference. The sac was somewhat irregular in form at the upper and middle thirds of its posterior surface. Associated with this dilated condition was an unusual thickness of the coats of the œsophagus, which, however, did not extend to the cardiac extremity; their thickness was more than double that of the normal tissues, and reached to four and a half millimetres. The layer of circular fibres was two millimetres in thickness. In this as well as in the layer of longitudinal fibres it was found that the contractile fibre cells were not perceptibly increased in size, so that a considerable augmentation in number must have taken place. There was also an extraordinary increase of the broad elastic fibres. The striated-muscles were involved in the hypertrophy, though to a much less extent than the smooth muscles, but their elements could be distinguished much more readily than those of striated muscular fibre in a normal condition. The distribution of the muscular tissue corresponded to that laid down by anatomical writers; striated fibre occurred only in the upper third of the œsophagus; contractile cells made their appearance first in the oblique layers, and afterwards in the longitudinal. The lowest portion of the crico-pharyngeal muscle lost itself partly by passing transversely among the posterior fibres of the circular layer, the diminishing bundles forming loops with their convexities outwards; partly by its lowest fibres descending upon the lateral parts of the œsophagus, those above passing towards the middle line, and those placed below taking more and more of a longitudinal direction. The mucous membrane had the smallest share in the hypertrophy of the wall of the œsophagus, and was not more than three-quarters of a milli-

metre in thickness. The muscularis mucosæ was normal, the inner layer of the mucous coat was swollen and loose, and presented here and there tuft-like papillæ; it was of a dirty reddish-brown color, and marked by numerous hæmorrhagic erosions. The stomach was normal, and the cardiac extremity showed no traces of any deviation from the normal state.

ART. 171.—On the Ligature of the Common Carotid Artery and the Statistics of this Operation.

By C. PILZ.

(*Archiv f. klinische Chirurgie*, ix. 1868; *Schmidt's Jahrbücher*, No. 7, 1868.)

Dr. Pilz has collected the reports of 586 cases, in which the common carotid artery was tied. These cases are arranged in six tables.

1. Ligature for hæmorrhages	No. 1 to No. 220.
2. Ligature for aneurisms	No. 221 to No. 306.
3. Ligature for tumors	No. 307 to No. 444.
4. Ligature previous to and during the extirpation of tumors	No. 445 to No. 513.
5. Ligature for nervous affections	No. 514 to No. 546.
6. Ligature after the Brasdor-Wardrop proceeding	No. 549 to No. 586.

To each of these tables is appended a list of cases, the details of which have not been fully reported. The full list of cases is thus extended to 676, of which, however, not more than 600 are of any statistical value. Of these 600 cases, 319 resulted in a cure, and 259 in death; in the remaining 22 cases the result was not given. From the number of fatal cases 29 have to be deducted, partly on account of coexisting affections of the vertebral artery, and partly because the patient succumbed to diseases which were not connected with the operation.

The proportion of recoveries and deaths to the whole number of cases contained in each table is given as follows:—

1. Ligature for hæmorrhage, 228 cases.—94 recoveries, 128 deaths. Result not given in 6 cases.
2. Ligature for aneurisms, 87 cases.—55 recoveries, 31 deaths. Result not given in 1 case.
3. Ligature for tumors, 142 cases.—87 recoveries, 49 deaths. Result not given in 6 cases.
4. Ligature during extirpation, 71 cases.—38 recoveries, 25 deaths. Result not given in 8 cases.
5. Ligature for nervous affections, 84 cases.—83 recoveries, 1 death.
6. Brasdor-Wardrop operation, 88 cases.—12 recoveries, 26 deaths. Result not given in 1 case.

Of 151 cases of ligature of the common carotid, collected by Norris, 93 resulted in recovery, and 58 in death. Of 137 collected by Velpeau, 97 were cured and 40 died.

The following are the results of deligation of the common carotid, applied for hæmorrhages:—

(1.) From gunshot wounds, 39 cases—19 recoveries, 20 deaths. (2.) From injuries from other arms, 46 cases—12 recoveries, 34 deaths. (3.) From punctured wounds, 21 cases—8 recoveries, 13 deaths. (4.) From incised wounds, 23 cases—12 recoveries, 11 deaths. (5.) Secondary hæmorrhage, 25 cases—10 recoveries, 15 deaths. (6.) Hæmorrhage from tumors, 16 cases—5 recoveries, 11 deaths. (7.) Hæmorrhage from corrosion, 16 cases—5 recoveries, 11 deaths. (8.) Spontaneous hæmorrhage, 4 cases—2 recoveries, 2 deaths. (9.) Injuries of which the causes are not detailed, 31 cases—18 recoveries, 13 deaths.

By ranging the cases according to the ages of the patients in tables of decennial periods, it was demonstrated that the greatest number of cures occurs in subjects in the prime of life, and between twenty and thirty years of age, and

then gradually diminishes; this fact is shown most clearly, as may be easily explained, by the results of operations for hemorrhage.

The detachment of the ligature in the majority of cases occurred about the 13th or 14th day. In one instance it came away on the 4th and in one other on the 96th day.

Cerebral symptoms were observed in 165 out of 250 cases, in which the common carotid had been tied. Of these 165 cases 91 died, or more than 55 per cent. Hemiplegia occurred in 50 cases, more than 8 per cent. of all the cases of operation. Of these 50 cases, 38 resulted in death. The cerebral symptoms in the great majority of cases depend upon extravasation of the blood—apoplexia sanguinea. The symptoms are caused in most part by a diminished blood supply and venous congestion. Against the objection to this view, that the cerebral symptoms must then come on immediately, it may be answered that after the arrest of the flow of arterial blood the brain tissue remains for some time saturated with nutritive fluid. The abnormal phenomena are presented for the first time when the brain is quite deficient in or has been only insufficiently supplied for some time with oxygenated blood. Sometimes more profound morbid changes of the tissue take place, as brain softening with surrounding inflammation. Thrombosis of the smallest vessels is probably associated with the softening processes.

The preservation of life and the perfection of the cure depend chiefly upon the integrity of the other carotid, of the vertebral artery, and of the arterial circle of Willis. In one case both common carotids were tied, one after the other. This operation resulted in coma. Ligature of both common carotid arteries was performed in twenty-nine other instances. In only a few of these cases were the two operations followed by critical symptoms. In one case reported by Müller, the first deligation was followed by hemiplegia, but no cerebral symptoms were presented after the second. These singular facts may be explained thus: After ligature of the second carotid the collateral circulation is rapidly established in consequence of the vertebral artery and other large branches from the subclavian coursing along the neck having previously found fresh paths marked out for them.

Vision and hearing are seldom impaired after deligation of the common carotid; deglutition on the other hand is frequently disturbed in consequence of injury of the numerous nerve twigs going to the pharynx; this occurred in 55 cases. Speech is often affected; 15 cases of aphonia are reported, and four of hoarseness.

Dr. Pilz found that after-hemorrhage occurred in 99 cases, including those in which there was bleeding from the aneurismal sac. In 50 cases there was bleeding from the operation wound in consequence of the vessel not having been sufficiently plugged. Extensive separation of the sheath of the artery also favors mortification of the exposed portion of the vessel and after-bleeding.

The following conclusions have been derived by Dr. Pilz from his investigations:—

Ligature of the common carotid is by no means to be considered as an unimportant operation, and should be carried out only when all other methods (digital compression included) have been tried. Before tying the carotid the surgeon should always make sure of the condition of the carotid on the opposite side, and of the subclavian, since the formation of a sufficient collateral circulation depends upon the integrity of these vessels.

In a case of punctured wound behind and below the ear, the surgeon should always recognize the possibility of an injury to the vertebral artery.

In cases of hemorrhage from incised and other wounds, an attempt should always be made to apply a ligature to the two ends of the divided artery.

In cases of spontaneous aneurism in patients between twenty and thirty years of age, Valsalva's treatment, associated with digital compression, should be tried before recourse is had to deligation.

In cases of orbital aneurism the ligature may be applied to the carotid when digital compression has been unsuccessful. In cases of tumor, and also for epilepsy, the ligature is always to be rejected. For tic-douloureux it need not be altogether rejected, although the utility of the operation is very uncertain.

The Brasdor-Wardrop operation for the treatment of aneurism of the arteria innominata deserves full consideration whenever Valsalva's method (modified) and digital compression can no longer be thought of. The surgeon may compress the subclavian and tie the carotid, and afterwards, if this treatment be insufficient, apply a ligature to the subclavian in front of the origin of its large branches.

(B) CONCERNING THE TRUNK.

ART. 172.—*On Thoracentesis.*

M. GINTRAC.

(*Société Médico-Chirurgicale des Hôpitaux et Hospices de Bordeaux; Mémoires et Bulletins, 1867.*)

1. Thoracentesis is an indispensable necessity whenever there is asphyxia excited by an effusion, without regard to the duration, the nature, and the cause of this effusion, or to the concomitant symptoms.

2. The operation is indicated in excessive effusion, particularly if it, with or without displacement of the neighboring viscera, has any tendency to increase, or even if it remains stationary in spite of energetic and sufficiently prolonged treatment.

3. It may be of service in moderate effusion; its advantages, however, are then questionable, since it is necessary to employ a concurrent medical treatment.

4. It should be performed without delay when syncope occurs in the course of considerable pleuritic effusion.

5. It should be also performed if abundant pleuritic effusion is associated with an anæmic condition, or with morbid changes in the lung of the opposite side.

6. It is contra-indicated in acute serous affusions so long as the inflammatory attack remains. The fluid in these cases may be absorbed, and puncturing will not shorten the duration of the disease.

7. It may be advised in cases of chronic serous effusion, particularly if one considers the sad effects produced by the retention of fluid within the pleural cavity. Nevertheless it should not be employed without consideration.

8. It is a last resource in hydrothorax accompanying phthisis in its first stage, or organic lesions of the heart, particularly if the effusion is likely to hasten death.

ART. 173.—*Three Cases of Perinephritic Abscess, complicated with Pulmonary and Pleuritic Disease; Incisions into the Renal Region: Recovery.*

By HENRY I. BOWDITCH, M.D.,

(*Boston Med. and Surg. Journal, July 9, 1868; and New York Medical Journal, November.*)

These cases are of rare occurrence, and the history of the three given by Dr. Bowditch is unusually instructive. They are too long, however, to transfer to our columns, and any summary would weaken their value. Dr. B.'s comments, however, contain all the essential points in diagnosis and treatment, and cover the whole of the teachings these cases convey:—

"These cases were three of the most interesting I have met with since commencing my profession. Singularly enough, they are the only ones I have ever seen of this very rare disease, viz., of perinephritic abscess, as Trousseau calls it. Still further—rare as the disease is in the practice of any one—these specimens all came under my notice during the brief period of nineteen months, and the two severest were within one month of each other. In all of them the abscess pushed upward into the thoracic cavity, and in one instance the perinephritic

origin of the thoracic disease was marked by the severe thoracic symptoms that supervened after comparatively mild signs of disease below the diaphragm.

"Analyzing them, I find as follows: Patients, all males, of the ages 27, 29, and 38 years respectively, and following the professions of physician, printer, and clerk. The disease commenced always near the right renal and cæcal region, and in all was preceded by some debilitating influences. Superadded to these, there were in two an unusual physical labor and physical strain. In one there is a special strain (from digging) of the psoas muscles, and in the other exposure to cold and wet in a swamp while working.

"The prominent symptom in all was *pain*, generally in the back and at the right renal region: at other times it was more in front and near the cæcum. It was, however, usually felt in both of these places, and sometimes down the legs. This pain caused lameness, which at times was severe and confined the patient to the bed with his knees flexed. At first, this pain was in one case superficial, but gradually it went deeper, and in two it was excruciating and attended with violent paroxysms of distress. There was at times slight obstruction of the bowels, easily removed, however, by enemata or by gentle cathartics. With the dejection came relief to temporary urgent symptoms. The appetite was lessened or wholly lost, and in two there was nausea; but, as a rule, there was no disturbance of the alimentary canal, nor was there of the urinary functions, except that the urine was in one case temporarily redder than normal. In one case, where the urine was specially examined by chemistry and the microscope, no albumen, blood, or casts were noticed. No jaundice or other disease of the liver in any of them; no general peritonitis; no cephalic symptoms.

"In all three, a tumor was found which could be grasped between the two hands placed in front and in the renal region, and filled up that space. It was usually rounded, doughy, rather non-elastic, and generally non-sensitive.

"In all there were signs that the abscess extended up into the right pleura, without apparently affecting the liver, after having probably forced its way behind that organ and along the psoas muscles, under the right crus of the diaphragm. This chest affection was in one case revealed only by auscultation and percussion, the respiratory murmur being less in the right back than the left, and some coarse mucous râles on friction were heard at the very lowest part, while no subjective symptoms occurred in that case. In another there were cough and a slight pleuritic effusion, coming on during recovery, and ten days after the opening had been made by the surgeon. Finally, in a third, the thoracic symptoms were so severe that the patient was held to be dying of them, yet the history of the symptoms and the physical signs at examination proved that pleurisy existed on the right side, while acute pneumonia had begun on the left.

"In one only the breath was fetid, almost fecal.

"The pulse varied exceedingly, sometimes little accelerated, at others being very rapid. In all there were marked chills with fever, and copious night sweating. Emaciation and debility took place in all.

"The treatment in all was tonic, with at times leeches, counter-irritants and opiates, with laxative enemata generally when needed during the earlier period. But the opening by the surgeon in the right renal region was in all the first and prominent step toward a cure, which, as we have seen, always took place. In all the bistoury and a free opening were used with great deference to the usual rules of surgery. I cannot but ask whether the trocar, either a small one with a suction-pump or one of a larger size, might not be tried at least, and thus, perhaps, one great danger of operating with the bistoury be avoided.

"It will be remembered that very severe hemorrhage occurred in one of our cases. Trousseau names this accident as being at times hazardous. Certainly it was in our first case, the patient being very bloodless, with ringing in ears, &c. Nothing but the promptest surgical skill apparently saved the patient. In the second and third there was no hemorrhage, and the happy influence of the operation was undoubted—immediate in one, and more slow but unequivocal in the other.

"In two the kidney could be felt, floating as it were, at the bottom of the abscess.

"The recovery was prompt in two, in about six weeks. In the other, where the hemorrhage occurred, the patient had a longer convalescence, and did not resume business till after six months.

"A few words on the literature of this subject.

"Great Britain seems almost wholly to have ignored the existence of this disease, so far, at least, as it may be considered one to which physicians would be summoned. Neither Graves, nor Watson, Aitken, Todd, Tanner, nor Chambers alludes to it. Bennet, of Edinburgh, gives a few cases of abscess of the kidney—but not outside of it, except secondarily. Neither Dr. Wood nor Dr. Flint, in this country, notices it.

"Trousseau¹ (preceded by Rayner,² Parmentier, and others, who have given cases) first made an elaborate article upon the subject. Monsieur Trousseau gives many causes: fatigue, strong muscular efforts, contusions, repeated and violent shakings of the kidney, renal calculi, typhoid and puerperal fevers, &c.

"He speaks of the very great infrequency of the disease, and of its very insidious approach. He alludes to most of the symptoms recorded in my cases. Among them he dwells chiefly on the swelling in the lumbar region, the pain in the same part, the chills and fever, emaciation and debility. He does not particularly allude to two prominent facts noticed in all of our cases, viz., the lameness of the movements of the right legs, owing to an interference with the free play of the psoas muscles, and the extreme frequency of pulmonary and pleuritic complications in consequence of the extension of the disease. And yet the anatomical structure of the parts concerned proves that nothing can be easier than the transmission by contiguity of the perinephritic abscess into the thorax. The psoas muscle extends up into the thorax behind the pillar of the diaphragm. Hence any abscess, pressing on or inside the muscle, will very readily gain access to parts above the diaphragm. It was the remembrance of the serious complications caused by this anatomical arrangement in the preceding cases that induced me, in the last case, to urge a speedy operation, when, according to the common rules of surgery and the absence of distinct fluctuation, a delay would naturally have suggested itself. In fact, one surgeon urged delay. Dr. Hodges, I think, was somewhat influenced by representations from Dr. Blake and myself, urging him to explore, at least.

"It is a singular fact, however, that notwithstanding the pus in these cases goes directly back of the liver, jaundice was not seen in our cases, and is, I think, a rare complication of the disease."

In this connection we may add the following brief account of a case of the same nature, which was reported at a recent meeting of the Clinical Society of London, by Dr. Southey:—

"The patient had previously suffered from stricture with vesical catarrh, subsequently passing pus in albuminous urine. A deep-seated swelling formed in the left loin, which varied in size according to the greater or less quantity of pus present in the urine. Presently a large amount of pus was discharged after the feces, and the patient began to suffer from the extreme exhaustion. The tumor pointed and was punctured; almost five ounces of deeply-seated pus escaped. Later on, symptoms of dysentery caused much suffering, but after a time the discharge became less, and the general health improved. Eventually the opening in the flank closed, and the patient recovered, but the bladder was permanently drawn up toward the left kidney, and there were pain and spasm in micturition. In the absence of any evidence of caries of the spine, or of embolism, or of renal calculus, Dr. Southey concluded that suppuration began in or about the kidney, and the disease was throughout of a local character."

¹ "Clin. Med." vol. iii. p. 713. Paris.

² "Maladies des Reins," 1839.

ART. 174.—On the Treatment of a large Hydatid Cyst by Injection of Iodine.

By Professor SKODA.

(*Allgemeine Wiener Medizinische Zeitung*, No. 19; and *British Medical Journal*, October 10.)

Professor Skoda has lately reported a case of large hydatid cyst in the left hypochondrium, which was treated successfully by injecting a solution of iodine. The patient was a man, aged forty-six years, who had suffered for some months from constant and severe pain in the region of the spleen. On his admission, a large fluctuating tumor was perceived on the left side of the abdomen, which reached from the upper border of the eighth rib to the crest of the ilium. On October 27th, an exploratory puncture was made, and several ounces of a clear, pale yellow, and serous fluid drawn off. This, when examined under the microscope, was found to contain the hooked processes of echinococci. On November 2d, another puncture was made into the tumor, and, after the removal of a large quantity of thick reddish discharge, five ounces of the following mixture were injected; tincture of iodine, four ounces; water, one ounce; iodide of potash, one scruple. This injection was allowed to remain for thirteen minutes. In the course of two hours, iodine was discovered in the urine. The patient was subsequently affected with salivation, inflammation of the parotid gland, conjunctivitis, and swelling of the eyelids. A second injection was made in April of the present year. This, like the former operation, resulted in severe abdominal pain. The patient gradually improved, and at last was discharged, strong, and in perfect health.

ART. 175.—Case in which a large Hydatid Cyst was removed from the Chest, with ultimate complete recovery.

By REGINALD SOUTHEY, M.D.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

The subject of this interesting case was a female, aged thirty-one, who suffered from a variety of anomalous symptoms, somewhat resembling neuralgia and hysteria, from cough, though without expectoration, pain in the right side of the chest, and dyspepsia. No benefit followed from the remedial measures adopted, and change of air seemed to make her worse than before. The local indications and the physical signs were very obscure, but at last a marked bulging made its appearance upon the right side of the spine, extending into the interscapular region. An exploratory incision was then made by means of a trocar, and a large quantity of puriform serous fluid was evacuated, and some relief was afforded. But eventually a free incision was made between the sixth and seventh ribs, and a soft jelly-like mass protruded, which was recognized as part of an hydatid cyst, which was fortunately entirely removed, its size being about that of a pig's bladder, and it was perfectly unattached. It appeared to be formed in the sac of the pleura above the diaphragm, and was wholly unconnected with the liver. The patient was restored to health in less than three months after the operation, and although she suffered from occasional pain in the right side, and the lung on that side was probably permanently altered in structure, she appeared stouter and better looking, and actually increased in weight more than a stone.

ART. 176.—*A Case of Penetrating Wound of the Abdomen and Protrusion of the Pancreas.—Removal of a Portion of Pancreas with favorable result.*

By Dr. KLEBERG of Odessa.

(*Archiv f. klinische Chirurgie*, ix., 2, p. 523; and *Schmidt's Jahrbücher*, No. 8, 1868.)

A man, sixty years of age, received, whilst stooping, a wound in the abdomen with a knife; this wound was horizontal, one inch in length, and placed midway, in a line with the right mamma, between the umbilicus and the arch of the ribs. From this projected a body about three inches in length and two in breadth, thick and broad at its free extremity; it was covered by a smooth membrane, and was of a brown color and tough consistency. The projection was closely embraced by the edges of the wound, and appeared to be strangulated; by percussion it was made out that the lower margin of the somewhat enlarged liver was placed about one inch and a half above the wound. The pain was slight. Pulse 72. The projecting body could only have been the head of the pancreas, since it was evident at a glance that the stomach, intestines, and liver had not been involved; moreover it could not have been a portion of the omentum, since there was no fat on it, whilst the patient was very corpulent and the projecting body presented a firm regular mass. Since a return of the projecting portion was not deemed feasible for fear of probable symptoms of strangulation, two long needles were passed through the edges of the wound and the neck of the protrusion, a loop of silk thread passed around the latter, and then the projecting body was removed by one stroke of the knife. Profuse hemorrhage was immediately arrested by tightening the thread. The excised body consisted of a firmly compressed convolution; in its long axis passed a canal which was surrounded by rounded red bodies, which last when magnified two hundred times were found to be inclosed in loose cellular tissue, and showed a number of arborescent and branching ducts, the ends of which terminated in a conglomeration of clear and transparent vesicles. The tissue of another pancreas taken from a fresh corpse presented the same formation, except that the ducts were narrower and the vesicles smaller, which could be accounted for by the fact that the individual had died of tuberculosis. With regard to the subsequent course of the wound in the patient, it may be said that no fever or peritonitis resulted; the ligature and the inclosed portion of the pancreas came away on the tenth day, and on the twenty-second day the patient was discharged cured, with a depressed funnel-shaped cicatrix. The nutrition of the patient did not suffer in any way, and there was every sign that the remaining portion of the pancreas fulfilled the functions of the whole gland.

ART. 177.—*On Injuries of the Spine.*

By JOHN ASHHURST, jun., A.M., M.D.

(*On Injuries of the Spine.*)

From the tables and from the considerations contained in his work on *Injuries of the Spine, with an analysis of nearly four hundred cases*, the author thinks the following conclusions justifiable:—

"1. Injuries of the spine are not nearly so fatal as is generally supposed, and they have been, not unfrequently, completely recovered from.

"2. By watching carefully the symptoms and knowing the lesions which they indicate, the patient's progress towards health or death can be pretty accurately foreseen in most cases.

"3. Whenever there is reason to believe that one or more vertebræ have been displaced, extension should be employed; temporary, if that be sufficient; if not, continuous.

"4. In no case do resection or trephining offer a reasonable prospect of improving the patient's condition, but, on the contrary, there is reason to fear that they would increase the chances of a fatal termination.

"5. Those cases of spinal injury which are not adapted for the employment of extension, should be treated in accordance with ordinary rational and physiological principles.

"6. No new mode of treatment is entitled to adoption in a class of injuries so serious as this, unless it can be shown by clinical experience that it is at any rate *not less successful* than the modes commended to us alike by reason and long experience."

ART. 178.—*A Case of Ilio-Psoas Abscess.*

By A. HAMMER, M.D.

(*Humboldt Med. Archives*, July, 1868; and *New York Medical Journal*, Nov.)

We refer to this case with the special view of calling attention to the novel method of treatment adopted to relieve the pain and discomfort caused by the prolonged confinement in bed. The case also involved a nice question of diagnosis in its earlier stages, and is altogether quite instructive:—

The patient was a young man of about thirty-seven years of age, who, previous to the attack of illness under which he succumbed, had enjoyed excellent health, and was rather noted for his vigor and ability as an amateur gymnast. During the winter he had been travelling in Illinois on business, and had been much exposed to the inclemencies of the season, and on his return to the city was taken ill on the 6th of December, and was treated by Dr. Engleman for rheumatism, who afterward, from the symptoms and complications, thought the attack to be *morbus coxarius*. Upon Dr. E. leaving for Europe, the case was left in charge of Dr. Castlehuhn. Dr. Hammer had been called in consultation about the middle of April, and found the patient confined to bed. The left leg was flexed and rotated inward; the hip and thigh were both enlarged, and he had severe pain around the hip-joint, and extending to the knee; there was an abscess just below the greater trochanter, and fluctuation discoverable below Poupart's ligament, on the anterior and internal side of the thigh (Scarpa's triangle). Dr. H. was disposed to believe that the joint was diseased, but, for the purpose of a more accurate investigation of the case, the patient was put under the influence of chloroform, when no signs of disease of the joint were discoverable, and the abscess was pronounced to be periarthritic. Within the next few days fluctuation could be detected beneath Poupart's ligament, within the pelvis, and could be traced along the *crista ilii*. Dr. Hammer, under such circumstances, pronounced the abscess retro-peritoneal, within the ilio-psoas muscle, and this diagnosis was fully confirmed, when still a few days afterwards fluctuation could be felt below the twelfth rib near the spinal column.

Both the abscess below the trochanter and that in the groin were subcutaneously evacuated by the trocar, but, refilling rapidly, recourse was had to drainage-tubes. The pus in the abscess below the trochanter becoming putrid from access of air, the drainage-tubes were removed from both abscesses, and that below the trochanter was laid open its whole length—about eight inches—and filled with dry charpie. An incision was made below the ribs, and injections made, first of clear water, and followed by diluted carbolic acid. The discharge not diminishing, tincture of iodine was repeatedly injected, but without benefit.

When Dr. H. first saw the patient he had large bed-sores on both nates, and on the sacrum; he was very weak and prostrated; completely emaciated; his tongue was covered with aphthæ; had no appetite; repeated rigors followed by high fever, and unable to lie in any position without excruciating pain. To obviate this latter trouble it was finally decided to suspend him in a permanent water bath of about 90°, in which he remained with comparative comfort for twenty-seven days, when death relieved him from his sufferings. In the beginning, the bath was decidedly beneficial, and in combination with antiseptic

remedies and stimulant treatment all unfavorable symptoms were markedly ameliorated. The aphthæ disappeared; the pulse fell from 130 to 85; his appetite increased enormously; he slept comfortably, and for the first time in many weeks could rest with comparatively little pain. So marked was the improvement that his friends felt confident of his final recovery; but the constant drain upon his system from the profuse suppuration proved so exhausting that he finally succumbed to inanition, and died in the bath, as though falling into a peaceful sleep.

The *post mortem* revealed an abscess extending along the iliacus and psoas muscles, and diffusing itself between the soft parts surrounding the joint, and even on the anterior external portion of the thigh. The capsule of the joint was perfectly intact, thus giving positive evidence that the suppuration had been entirely peri-arthritis. The joint on being opened presented the interesting appearance shown in the specimen: The cartilage covering the head of the femur, and lining the cavity of the acetabulum, was in a state of softening, in some places showing the cancellated structure of the bone; and near the centre of the acetabulum even the osseous structure had been absorbed, leaving a spot about the size of a pea, which, on the internal or pelvic side of the bone, was only closed by the covering of periosteum. There was no pus in the joint, and only a very small amount of a dirty-looking fluid, the detritus of the process of softening.

Dr. H. expressed the opinion that the affection of the joint had only supervened during the last four or five weeks of the man's illness, inasmuch as the most careful examination, under the influence of chloroform, when he first saw the patient, did not reveal any kind of morbid affection of the articulating surfaces; and he further believed that it was the mere result of the pressure of the head of the bone in the acetabulum, caused by the continued contraction of the surrounding muscles.

With regard to the so-called pathognomonic pain in the joint and in the knee in the beginning of the disease, and which had led the first physician to diagnose rheumatism and coxitis, he stated that a retroperitoneal abscess upon the ilio-psoas muscle would undoubtedly cause such an irritation of the crural nerve by pressure, &c., as to give rise to the same symptoms.

ART. 179.—On Aneurism of the Gluteal Artery.

By M. SERVIER.

(*Gazette Hebdomadaire*, Nos. 21, 22, 1868.)

M. Servier has collected seven cases of aneurism of the gluteal artery. The aneurism was traumatic in two of these cases, and spontaneous in the remaining five. The memoir concludes with the following remarks on the etiology, pathology, and treatment of this surgical affection:—

The etiology of spontaneous aneurism is very obscure. Among the subjects of the five reported cases of gluteal aneurism there were four men and one woman. It is known that spontaneous aneurism, particularly of the superficial arteries, occurs much less frequently in the female than in the male. In M. Broca's tables of external aneurisms, females furnish about one-fourteenth of the cases. In the five reported cases, the age of the female is not indicated: the ages of the four men were thirty-three, twenty-nine, sixty, and thirty-eight years. According to M. Broca's tables, aneurisms are observed most frequently in subjects from thirty to fifty years of age. Aneurisms of the gluteal, though the number is small, have not departed from this general rule.

In none of the five cases is any mention made of any vascular lesion, either atheromatous or calcareous, affecting the gluteal or other arteries. Lesions of this kind, which have been frequently evoked as causes of aneurism, are wanting in a great number of cases.

Syphilis and alcoholic excesses exert a decided influence upon the vitality and nutrition of the walls of arteries. No mention is made of syphilis in our five cases; in one it is stated that the patient had had intemperate habits.

The influence of mechanical causes is to be recognized in the five cases. In one reported by Atkinson, of York, it was stated that the tumor came on after a violent blow caused by a stone. In White's case, the patient had had frequent falls, and it was supposed that the aneurism had been produced by repeated striking of the left buttock. In another case the patient, in making a violent effort to recover himself after a false step, fell against a wall, and immediately afterwards felt a sharp pain in the right thigh, and perceived that this part of the body had increased in size. In this case there was neither fall nor direct blow upon the gluteal region. Finally, in a case reported by M. Sappey, it is related that the aneurism was developed after a fall upon the buttock. Here, then, are four cases in which an injury was pointed to as the direct or immediate cause of the arterial lesion. Had the arteries undergone some special morbid change? This is probable; but the morbid change must have been an inappreciable one, and not the classical disease of atheroma or calcareous degeneration. M. Servier thinks from the above facts that we have good reasons for recognizing the positive influence of injuries upon the production of aneurism of the gluteal artery.

The diagnosis of gluteal aneurism may be very difficult. Doubtless, when the tumor is limited, and presents pulsations and a *bruit de souffle*, the nature of the disease can be readily recognized; but it is not always so, especially at the commencement, when the surgeon may be much embarrassed to decide between an inflammatory swelling and an aneurismal tumor. A case was observed by M. Servier in the Hôtel Dieu of Lyons, which required great skill to decide the question of diagnosis. John Bell made an exploratory puncture for the purpose of finding out the nature of the swelling with which he had to deal. In a case reported by Pomeroy White, of Hudson, U. S., the tumor was taken for an abscess, and the aneurism was not recognized before an opening had been made into it with a bistoury.

The diagnosis becomes more difficult when the surgeon has to distinguish an aneurism of the ischiatic artery from one of the gluteal. These lesions have already been confounded in two instances.

In the reported cases of gluteal aneurism, a cure was attempted by means of ligature of the gluteal artery, by ligature of the internal iliac, and by coagulating injections. M. Servier discusses only these three methods of treatment, and leaves out of consideration remote compression, which is not applicable in these cases, and the method of Valsalva, which is reserved for those cases where active surgery cannot interfere.

M. Servier complains that the term "ligature of the gluteal," *ligature de la fessière*, which exists in the majority of works on operative surgery, when dealing with gluteal aneurism, gives a false idea of the operation that has been practised. In fact, these words, "ligature of an artery," in cases of aneurism, implies that the operation has been performed according to Anel's method—that is to say, ligature of a vessel above the aneurism in a sound part of its course. The operations performed by John Bell and Carmichael were not of this kind; those surgeons cut into the sac, and it was only after the aneurism had been opened that they reached the affected vessel; they carried out the *old method*. We may say, then, that there are no instances in surgical science of ligature of the gluteal artery for aneurism, according to the method of Anel.

By looking to the results already obtained, we might recommend almost indifferently ligature of the gluteal, or that of the internal iliac, and even promise a favorable result. But if it is ever true that success does not justify enterprise, it is perhaps especially so in surgery. Certainly the list of successes is a very good one: two deligations of the gluteal, two cures; four deligations of the internal iliac, three cures; and the patient who succumbed living for twenty days after the operation. It is open to doubt whether successes would have occurred in the same proportion if the operation had been more frequently required.

Let us endeavor, in the first place, to determine which of these two operations, ligature of the gluteal and ligature of the internal iliac, answers better in cases of aneurism of the gluteal artery; we will then inquire whether the method of coagulating injections ought not to be preferred.

When an operation is applied to the treatment of any affection, it ought to fulfil two conditions: the first is efficacy, the second immunity, more or less. Ligature of the gluteal fulfils very well the condition of immunity; but is it efficacious? M. Servier does not think that it is. It is generally admitted that the ligature, when applied according to Anel's method—that is to say, without leaving collateral branches between it and the aneurismal sac—does not give such good results as the ligature applied after the proceeding of Hunter. M. Broca has insisted particularly on this point, and gives an explanation of it. It is for this reason that M. Servier thinks ligature of the gluteal less efficacious than that of the internal iliac.

Another objection to ligature of the gluteal is, that we must deprive the patient of the benefits of anæsthesia. How can one venture to give chloroform to a patient placed for a long time on his belly?

Finally, is it really possible to carry a ligature around the gluteal artery, when its course, always a short one, is further diminished by the presence of an aneurismal tumor? It is certain that up to the present time this operation has not been performed. As has been already remarked, John Bell and Carmichael cut into the aneurismal sac, and tied the artery at the bottom of the wound, after the tumor had been opened.

Ligature of the internal iliac would without doubt prove more efficacious in curing an aneurismal tumor. But this operation is a very formidable one, and, as can be readily imagined, would not be willingly resorted to by the surgeon, except in cases of urgency.

A distinction must be made in cases of gluteal aneurism. It is necessary not to confound cases in which the aneurismal sac exists in all its integrity with those in which the sac is broken; in other words, cases in which hemorrhage is not to be expected and those in which it is imminent. In the first class of cases, ligature of the internal iliac may be recommended, since this operation in the absence of possible accidents offers many chances of success; in the second class, on the contrary, this operation would probably be insufficient in consequence of the numerous anastomoses between the arteries of the pelvis. Then the proper proceeding would be ligature of the gluteal, after complete opening of the sac, or a ligature of the common iliac.

All the authors of the different treatises on operative surgery insist upon the dangers of deligation of the internal iliac artery. Velpeau rejects it in cases of aneurism of the gluteal.

Lisfranc has alluded to the gravity of this operation, and Sedillot recommends ligature of the gluteal. M. Guérin, on the other hand, prefers deligation of the internal iliac. M. Bouisson is a strong supporter of deligation of the gluteal, and states that it can be executed with less difficulty than that of the internal iliac.

We have then two operations before us: one frequently impracticable, and whatever may have been said of it, of very doubtful efficacy, extremely difficult, the performance of which forbids the use of anæsthetic agents, and exposes the patient to the dangers common to all deligations performed immediately above an aneurismal sac, but which operation, in the majority of cases, has not been followed by severe symptoms. The other operation, on the contrary, will in every way be advantageous when the sac is intact, and there is no hemorrhage; but the performance of this is encompassed by a host of the most serious dangers.

But fortunately for the patient, deligation of an artery is not the only known method to be employed in the treatment of aneurisms; without speaking of compression, which is inapplicable in cases of gluteal aneurism, the practice of injecting coagulating fluids may be considered; and M. Servier thinks that the application of this plan of treatment is rarely indicated with such certainty as it is in aneurism of the gluteal artery.

The treatment by coagulating injections has been criticized very severely by Malgaigne, Richot, and Léon le Fort. M. Servier has no intention of proposing it as a general method applicable to all cases, and one to be preferred to the ligature or to compression; he merely thinks that, with all its imperfections, it may render eminent services in certain special cases, and that aneu-

risms of the gluteal are exactly of this kind. The employment of coagulating injections is a *pis aller*, but still one that the surgeon is happy to apply. The perchloride of iron has already done good service. In 1853 there were but two reported cases of cure from its use; at the present time there are nearly twenty. This agent ought not to be considered as inert and powerless, or as a palliative, but rather as one upon which the surgeon has a right to rely, and from which he may hope for complete and certain cures.

In concluding, M. Servier states that the following line of conduct seems to him to have been traced out by the practice of surgeons and the precepts of authors. When an aneurism can be treated by remote compression, this method should be resorted to and practised either by the fingers or by instruments. Such cases as these are, for example, aneurisms of the popliteal. Whenever he is able, the surgeon should treat aneurism by compression. When compression is inapplicable—as, for example, in aneurism of the carotid—one has recourse to the ligature according to the proceeding of Hunter. But when compression is not possible, and deligation seems likely to be useless or too dangerous, there remains the plan of coagulating injections. This is not always an inoffensive one, and cannot be applied to certain regions—to an aneurism of the thyroid artery, for example—because one of the chief accidents to be feared is inflammation of the sac, and consecutive phlegmon, and this in the thyroid region may have very serious consequences. In the gluteal region, however, a phlegmonous inflammation, though always a serious lesion, is much less formidable.

Applying these precepts to aneurism of the gluteal artery, we may conclude that—

Ligature of the gluteal is almost impracticable, and with great probability insufficient. It has no facts in its support, for the professed deligations of the gluteal were operations according to the old method—viz., opening of the sac.

The only case of deligation according to Anel's method is one reported by Mr. Sappey (ligature of the ischiatic), which was not followed by a cure.

That ligature of the internal iliac is an operation which might prove efficacious, but which is encompassed with formidable dangers.

That injection of perchloride of iron is practicable in all cases, offering sufficient chances of cure, and when performed with requisite precautions, not likely to be the cause of serious accidents.

ART. 180.—*The Treatment of Hæmorrhoids.*

By J. MULVANY, M.D., L.R.C.S.E., &c., Assistant-Surgeon, Royal Navy.

(*Medical Press and Circular*, June 10.)

The author of this paper says that the rationale of treatment is extremely simple, and consists in the adaptation of remedial agents to correct the pathological conditions on which they depend—in other words, to remove constipation, restore peristaltic action, give tone to the paralyzed muscular tissue of the great intestine, constrict the dilated hæmorrhoidal capillaries by increasing the contractility of the middle coats of their supplying arteries, and thus enable the veins to resume their normal degree of rectitude.

In belladonna we possess an agent capable of supplying by its physiological action all these desiderata. Because, acting through the intestinal branches of the solar plexus, it will increase peristaltic action, and restore tone to the paralyzed muscular fibres of the colon and rectum, by which means the bowel may be unloaded and kept in a state of solution, and pressure be thus taken off the hæmorrhoidal plexus and semicircular festoons, a desideratum which may be much accelerated by the previous administration of a dose of castor oil, to clear out the bowel and facilitate absorption.

Again, by acting on the vasomotor nerves of the hæmorrhoidal arteries, it will promote the contractility of their muscular tunics, lessen the supply of blood to the trajet-anal, and thereby check bleeding; and, at the same time,

diminish the size of, and ultimately remove, hæmorrhoidal tumors requiring constitutional treatment alone.

For the external pile, the grease which runs from the hot bearings and eccentrics in the engine-room of a steamer will be found an unfailing remedy. As the liquefied grease drops from the bearings, it is caught in a "save-all," and on cooling is fit for use. It should be mixed with one-eighth its bulk of lard. It then forms an ointment of a pale blue color, the efficacy of which is so well known to the stokers that they treat, *sub rosa*, nearly all the cases of piles that occur on board ship. For the varieties of internal hæmorrhoids castor oil and belladonna, administered by the mouth, and the ointment applied locally, will usually suffice.

ART. 181.—*Treatment of Internal Hæmorrhoids by the Gas Cautery.*

Cases under the care of Mr. WILLIAM STOKES, of the Richmond Surgical Hospital. Reported by Mr. J. A. ROSS, L.R.C.S.I.

(*British Medical Journal*, October 31, 1868.)

The treatment of internal hæmorrhoids by the gas cautery is becoming the favorite mode of dealing with this affection in Mr. Stokes's wards. In his opinion, it is an operation attended with less risk, and, when the hæmorrhoidal clamp of Langenbeck is applied, certainly less pain, than any other that has been devised for their removal. In no case, either, has the slightest tendency to contraction or narrowing of the rectum been observed after the operation. The following cases, which, among others, have recently been under observation, may be briefly mentioned as strikingly illustrative of these advantages.

CASE 1.—William G—, aged forty-two, was admitted into the Richmond Hospital last March. During the last two years he had suffered from hæmorrhoids, which at times gave him intense suffering. He had a very anæmic appearance, produced, most probably, by the frequent hæmorrhages from the tumor. His bowels, he stated, had been habitually constipated; and each evacuation was attended with very great pain. On these occasions the tumor invariably protruded; and the subsequent reduction of it was attended at times with much difficulty. The patient's general health was very much impaired from the long-continued suffering and frequent hæmorrhages. Two applications of the gas cautery were found necessary to destroy the tumor in this case: and, a week after the second cauterization, the patient was enabled to leave the hospital and return home. Nothing untoward occurred during his convalescence. In September, six months after the operation, he presented himself for examination, and there was no evidence of any recurrence of the disease, and the patient was in every respect in perfect health.

CASE 2.—Jane M—, aged fifty, was admitted into the Richmond Hospital last June. She suffered from a very large hæmorrhoidal tumor, which gave her great distress, and at times bled copiously. It was one of the largest hæmorrhoidal tumors Mr. Stokes had ever witnessed. In appearance it bore some resemblance to a cluster of ripe purple grapes. This case required three applications of the gas cautery, none of which were attended with any inconvenience to the patient. In truth, on the last occasion, the patient was not aware of the moment when it was applied. The freedom from pain during the application of the cautery was due, as Mr. Stokes observed, to the complete manner in which the tumor was secured and strangulated at its base by the hæmorrhoidal clamp. This patient has occasionally been seen and examined at the hospital since the last application of the cautery; and she has always expressed herself as having been completely relieved, in perfect health, and able to resume her ordinary avocations.

CASE 3.—James M—, aged forty, was admitted into the Richmond Hospital last August. He suffered great inconvenience from a small cluster of internal hæmorrhoids, from which there was occasionally copious hæmorrhage. He suffered at times from their becoming strangulated, also from habitual constipation. This hæmorrhoidal tumor was destroyed by the gas cautery at one

sitting, and the patient soon afterwards left the hospital quite relieved. In this case, like the last, the patient was not aware of the moment when the cautery was being applied.

In none of these cases was chloroform administered. The only time the patients feel any pain in this operation is during application of the clamp. It is, however, only momentary.

The following points are of practical importance, and should be borne in mind in the performance of this operation. First, the clamp should be fastened at the base of the tumor, so as to strangulate it completely. Secondly, a piece of moistened lint should be placed behind the broad blades of the clamp, as they are apt to become too hot if the cauterization has to be very deep; and, lastly, care should be taken, to bring the platinum disks of the cautery to a white heat before applying them to the hæmorrhoidal tumor. If these precautions are taken, the application of the cautery will be found to be *painless*, and the administration of chloroform (which, according to M. Nélaton, is in this operation indispensable), quite necessary. This eminent surgeon did not, however, employ a clamp previous to the application of the cautery, but used to pass through the base of the tumor a wire, which was held by an assistant, to prevent the hæmorrhoid slipping back into the rectum; and, surrounding the mass by a fold of moistened linen having an opening in it corresponding to the tumor, the cautery was then applied. Performed in this manner, the operation must doubtless have been painful, and necessarily requiring chloroform. The introduction of the clamp must, therefore, be looked upon as a very great improvement.

ART. 182.—*A Case of Fracture of the Pubis from Muscular Contraction.*

By M. LETENNEUR.

(*Gazette Hebdomadaire*, No. 37, 1868.)

The following report was presented by M. Guyon for M. Letenneur to the Société Impériale de Chirurgie:—

"Rose —, aged forty-three years, was engaged in the month of April last in moving from a boat to an adjoining quay heavy stones, the average weight of which was 150 pounds. She had seized one of these stones, and raised it with difficulty as high as the pubis, against which region the heavy body was allowed to rest. The woman's body was bent forwards, and in order to place the stone upon the surface of the quay, it was necessary for it to be elevated for another twenty or thirty centimetres. The arms were incapable of this difficult labor; the woman exerted her whole strength, straightened her body, and pushed the stone on shore by means of her belly. She immediately felt acute pain in the left groin, but no crepitation. In spite of this accident she finished her work.

"On the following day she removed the stones with a wheelbarrow, and on the day after she walked a distance of eight kilometres. The pain, however, increased, and the woman was obliged to take to her bed, and to apply for admission into the hospital six days after the accident.

"The patient was seen by M. Letenneur, for the first time, on May 4th. She lay upon her back; no pelvic deformity was observed at first sight. There was pain during movements either active or passive. The lower limbs seemed to have been rendered powerless. The coxo-femoral joints were intact. On examination of the pubis, M. Letenneur found on the left side of the body of the bone a projection, seated at a distance of some millimetres to the outside of the spine, and prolonged downwards. This projection was formed by the internal fragment of the fractured pubis; the internal fragment was somewhat depressed; pressure with the finger on this point caused very severe pain. Nothing analogous was found on the right side; but the patient complained of pain following the course of the tendon of the right psoas and iliacus muscles.

"Introduction of a finger into the vagina enabled M. Letenneur to make out a fracture with slight displacement of descending branch of the left pubis. The right side of the pubic arch was intact. After having placed the patient upon her right side, there could be felt and also heard from a distance a marked crepitation, the seat of which corresponded to the point where the deformity existed. This crepitation, which the patient could reproduce at will, could not be set up by moving the iliac bones. The vertebral column and the sacro-iliac symphysis were intact.

"On May 6th the pelvis was compressed by a broad cincture passed around the haunches; the patient was then enabled to raise her legs immediately, without pain. At the end of twenty days crepitation ceased, and the patient was allowed to get up. She quitted the hospital on the 2d of July. She could walk with ease. Abduction of the left thigh was slightly impeded. Consolidation seems to be complete; but between the two fragments there existed a difference in the level of about half a centimetre.

M. Letenneur explains the mechanism of the fracture thus:—

The trunk was semi-flexed upon the thighs. The stone, resting upon the pubis, could not be elevated and placed upon the quay, except by an upward and forward pushing movement of the pelvis. For this purpose it was necessary that the left lower limb should support the whole weight of the body, and that the head of the femur on this side should become the point around which the movements of elevation of the trunk and rotation of the pelvis were to be made. But it is probable that in this rapid and energetic movement, the left iliac bone bridled by the iliacus muscle, had not yielded to the impulse given to the right side of the pelvis, and that the coxo-femoral articulation, rendered immovable for the purpose of maintaining the equilibrium of the body, had not permitted the double movement of extension and rotation of the trunk. Between this resistance on the left side, and the impulse given to the right side of the pelvis, the pubis was subjected to too great an effort, and broken. The effort having been arrested at the very moment of the fracture, the periosteum was not torn through. It is only under the influence of violent movements that displacement was produced, and that the pelvis was ultimately incapable of serving as a sufficient *point d'appui* to the lower limbs.

ART. 183.—*Treatment of Chordee.*

By BERKELEY HILL, M.B., F.R.C.S.

(*Syphilis and Local Contagious Disorders.*)

Chordee, Mr. Hill writes, may be prevented by avoiding all sexual excitement, by keeping a moderate diet, and by lying on a hard mattress, lightly clothed. Stimulating medicines, or drastic purgatives, increase the tendency to erection. Camphor is sometimes useful in warding off or allaying the pain while the acute congestion lasts; opium is a more certain remedy, given in the form of Dover's powder, or as a suppository, one-third or half a grain of morphia in ten grains of cocoa-butter passed into the rectum on going to bed. Cold applied to the penis when erection has come on most speedily reduces it. Strychnia, 1-32d to 1-24th part of a grain twice or thrice daily, often prevents nocturnal chordee.

ART. 184.—*Treatment of Acute Orchitis.*¹

By FURNEAUX JORDAN, F.R.C.S.

(*British Medical Journal*, August 22.)

The author referred to the variety of orchitis sometimes called epididymitis, which was usually acute or subacute, and which followed or was consecutive to

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

urethral lesion, especially gonorrhœa and gleet. The treatment consisted in the application of a strong solution of nitrate of silver to the scrotum of the affected side, followed by gentle pressure. The first occasion on which Mr. Jordan adopted the treatment was in the case of an in-patient of the Queen's Hospital, Birmingham, suffering from gonorrheal rheumatism of the knee. An acute synovitis of one knee was cured, as most cases are, in twenty-four hours, by nitrate of silver applied almost to vesication. Then acute orchitis set in, a strong solution of nitrate of silver was applied: and in twelve hours swelling, pain, and tenderness had disappeared. For several years he had uniformly adopted this treatment, and with unvarying success. It did not possess the heroism of a knife-plunge into the testicle or into the tunica vaginalis, but it was as quick and effective in its results as the bolder methods.

ART. 185.—A Case of Fœtal Cyst communicating with the Urinary Passages of a Man.¹

By M. BROCA.

(*Gazette Hebdomadaire*, No. 26, 1868.)

At the commencement of June, 1868, M. Broca was consulted by a man, aged sixty-one years, who since the year 1864 had had a mucous discharge which was attributed to seminal loss. At the same time there had been frequent desire to urinate and painful micturition. In a short time he passed with the mucus gravel and some hairs. The man had been somewhat improved by passing a season at Contrexéville, but the affection still continued, and hairs and what the patient called gravel were still passed by the urethra. M. Broca examined some of the supposed gravel, and found that it consisted of very fine and more or less rounded shell-like bodies; one of which was of the size of four millimetres. On microscopic examination these bodies were found to be made up of cartilaginous elements infiltrated at certain points with calcareous matter. The hairs presented no peculiarity of structure. M. Broca concluded that the fragments of bone and the hairs had proceeded from a fœtal cyst communicating with the urinary passages.

Rayer, in a Memoir published in 1850, reported some cases of pilimicturition; in these cases fragments of the skeleton were not observed in the urine, but at the autopsy it was found that they were too large to pass away by the urethra. Having never met with cases of pilimicturition from fœtal cysts in the male, Rayer divided his facts into two classes.

The first class, called trichiasis of the urinary passages, was characterized by the expulsion through the urethra of hairs which had grown upon the mucous membrane of the urinary passages. The facts are very numerous, but most of them were not investigated by microscopical examination, so it is probable that elongated mucosities had sometimes been taken for hairs. In addition no report is given of an autopsy showing the hairs fixed upon the urinary mucous membrane; finally, it is necessary to allow for errors and for fraud. Leuwenhoeck had an opportunity of examining a hairy mass taken from the female bladder; but examination proved that this was made of wool and finely-cut straw. On another occasion a calculus taken from the bladder of a woman had a small nucleus formed of hair; this at first was thought to have been a case of trichiasis; but the small mass of hair was bound with a thread. It is necessary then to look with some doubt upon all the cases of trichiasis; but these are so numerous, and fraud of this kind is so difficult with the male, that Rayer believed in the existence of the affection. From the case reported by M. Broca, it will be seen that cases of true pilimicturition are susceptible of another explanation.

In the second class Rayer ranges the examples of pilimicturition, which, according to him, are observed only in the female. He bases his decision upon

¹ Communicated to the Société Impériale de Chirurgie, June 17, 1868.

observation of five cases, in four of which autopsies were performed. In these four cases the foetal cysts were in communication with the urinary passages and contained fatty matter, hairs, teeth, and fragments of jaw. The fifth observation, from M. Larry, is also conclusive; a tumor opened itself in the hypogastrum, and discharged hairs; it was found to be a piliferous cyst in communication with the bladder. Later a calculus formed in the bladder, and was removed through the canal uniting the bladder and the cyst. As the subjects of these five cases were females, Rayer considered that the cysts were always para-ovarian; and as the affection commenced about the ages of thirty, forty, or fifty years, he attributed these cysts to extra-uterine gestation and false pregnancies. This opinion has been accepted by many pathologists, but M. Broca does not agree with them, as he holds that foetal cysts are not more frequent towards the age of thirty, than they are in youth; they have been found in girls before the age of puberty. Moreover, the above case proves that they may exist in males as well as in females.

ART. 186.—*On Blennorrhagic Inflammation of the Vas Deferens.*

By M. GOSSELIN.

(*Gazette des Hôpitaux*, No. 66, 1868.)

It is well known that in cases of blennorrhagic epididymitis, the vas deferens from the tail of the epididymis to the superior orifice of the inguinal canal is often hard, swollen, and as large as a ramrod. Inflammation of a blennorrhagic origin limited to the vas deferens, that is to say, independent of epididymitis and concomitant orchitis, is less known, because its occurrence is much less frequent. M. Gosselin has recently observed a very convincing example of this affection, and has made it the subject of one of his lectures delivered at the Hôpital de la Charité.

The patient, aged twenty-five years, had suffered for nearly five months from a blennorrhagia which had passed into the condition of gleet. No attention was paid to the latter affection, and on the 10th of May a swelling was felt on the left side of the scrotum. The man continued working for some days, but was obliged to apply for treatment on the 15th, in consequence of the increase of pain and swelling.

On examination, M. Gosselin found at the lower part of the scrotum on the left side, below the external inguinal ring and very nearly on a level with the head of the epididymis, a rounded and very hard tumor, which was painful when handled, and of the size of a large hazel-nut. From the lower part of this swelling to the tail of the epididymis passed a hard cord as large as a fair-sized quill, and from its upper end passed another cord larger than the preceding, uniformly hard—that is to say, without knots here and there, and which could be easily traced from the tumor as far as the external inguinal ring, and even beyond this to the superior opening of the canal. No appreciable swelling of the ejaculatory tubes and the end of the vas deferens could be made out on rectal examination. An examination repeated on the following days, enabled M. Gosselin to prove satisfactorily that the epididymis was entirely distinct from the swelling, and that the only part in which the disease was localized was the vas deferens. It was also made out that the rest of the spermatic cord maintained its normal consistency and the suppleness of its cellular tissue.

The hardness of the elongated vas deferens duct and its localized swelling impressed upon the affection physical characters analogous to those of tubercularization of this excretory canal. But besides the absence of tubercular deposit in the prostate and testicle, the affection was too recent to justify any ideas of a lesion of this kind; moreover, the unquestionable existence of a gleet explained the possibility of an inflammation commencing at the urethra and arrested in the vas deferens.

The treatment consisted in rest, mercurial inunction, and two purgations. The tumor diminished rapidly, and when the patient left the hospital on the 1st of June, only a trace could be observed of the affection in a slight thickening

near the head of the epididymis; all the other symptoms had disappeared, and the hard cord was replaced by the small cylinder forming the normal vas deferens.

ART. 187.—*Two Cases of Incontinence of Urine from earliest Childhood, cured by Mechanical Dilatation.*

Under the care of Dr. BRAXTON HICKS.

(*The Lancet*, July 4.)

A cause of incontinence of urine is indicated in the following cases which is not generally recognized. The treatment which Dr. Hicks applied was very successful, and we have no doubt that the record of it will be of great service to practitioners who have patients suffering from this very troublesome condition.

CASE 1.—M. A——, about twenty-two years old, had suffered ever since she can remember from nocturnal incontinence of the urine, and almost incessant desire to micturate during the day. Had been under a great amount of treatment. She was admitted to Guy's Hospital under one of the surgeons, who examined for stone, but found none, nor any disease of the bladder, but a contracted one. Dr. Hicks offered to take charge of her. He began first by injecting solution of morphia, which lessened the irritability to a great extent, so much so that she was free for two or three nights from her distress. However, no further progress was made, but rather retrocession. Dr. Hicks then ordered the bladder to be distended as much as possible by plain warm water. This was done by his clerk, Dr. Chas. Smith, very carefully, daily. Almost directly she derived benefit, and in the course of a week she was quite well. The treatment was kept up for a week more, and she went out. After three months the nocturnal incontinence returned, and she was readmitted; but the bladder became rather more irritable. Morphia was again used, but not acting so well as before, an injection of nitrate of silver, twenty grains to the ounce of water, was employed. This caused some pain after, but in a week she improved, with occasional trouble at night. She could hold half a pint of urine at a time in the day, but not so much at night. However, by an occasional injection of morphia she gradually regained the power of retention, and went out again free from her complaint. It was curious that for two or three days of the latter part of her treatment she was troubled with complete retention of urine; this, possibly, was of a nervous character.

Dr. Hicks remarked that the constant evacuation of urine permitted by some mothers to their children allowed the bladder to become so constantly empty, that after a time the muscular power of the sphincter was not sufficient to counteract the contractility of the organ. In recent cases, no doubt, this could be voluntarily overcome by adults; but in old-standing cases, although we might do much by lessening the sensibility of the bladder, yet we might proceed at once to overcome its resistance by mechanical force, so that further treatment would not be required. This was strongly shown in the following case, which recently was under his care in Guy's Hospital.

CASE 2.—The history was precisely similar to that of the last. The bladder was at once injected with water; it shortly held half a pint. The incontinence was rapidly cured, and the patient went out to service.

Both these girls had been unfit for service from their complaint. Dr. Hicks suggested the applicability of this treatment to both sexes, in cases with similar history; at any rate it would be harmless, unless violence were used. He thought it was possible that in some of the cases there were congenitally small bladders, and these possibly might be more difficult to manage.

There is much more difficulty in treating the contracted state of the bladder in chronic cystitis. A great deal can, however, be effected by injections of various kinds, as was shown in the following instance:—

C. C.—, aged twenty-six, had cystitis after delivery, which caused her great pain, and intense desire to void urine every half hour. Various remedies were

tried: styptics and sedatives to the interior of the bladder. Nitrate of silver injection (thirty grains to the ounce) was the most beneficial. The distress it caused was considerable; but she preferred it, as giving most subsequent relief. Morphia solution was always left in afterwards; and also at other times, to lessen the sensitiveness; occasionally mechanical distension was employed, but it was found nearly impossible to inject beyond three ounces at any time. After two months she could retain urine for nearly three hours, when Dr. Hicks thought it might be possible to distend the bladder to a greater extent under chloroform. This was tried; but three ounces was the greatest quantity admitted. There was a good deal of irritation after, and she was not so well as before. After a week she could hold her water only for an hour and a quarter. Afterwards she improved, and could manage to retain urine for an hour and a half when she left the hospital.

Whether the resistance of the bladder was simply from the thickened walls, or from this and inflammatory adhesions also, did not appear clear in the case. The resistance was very firm. She had, however, gained something altogether by the treatment; but not so much as she would have done had no attempt been made to distend the bladder.

ART. 188.—Four Cases tending to illustrate the Absorbing Power of the Bladder.

Under the care of Dr. GUYON, of the Hôpital Necker.

(*The Lancet*, August 22.)

The following cases will be found of interest, as assisting to elucidate an obscure point of physiological therapeutics which has given rise to much difference of opinion. Not further back than in the *Lancet* for June 20, Sir Henry Thompson, in his lecture on Cystitis and Prostatitis, mentions that injections of anodynes into the bladder are of hardly any value, and that the quantity injected matters little, because the mucous membrane of the bladder appears to have no absorbing power; whilst in a preceding number of the same journal (Oct. 19th, 1867), Dr. Braxton Hicks, in a lecture on a similar subject, states that he has derived the best results from the employment of injections of morphia. The following clinical observations, and particularly the fourth, would appear to support the latter opinion. The details of the cases and the remarks which precede and accompany them are by Mr. Edward Alling, Dr. Guyon's talented house-surgeon.

There exists a wide difference of opinion between medical men with regard to the absorbing power of the mucous membrane of the bladder. In the number of the *Gazette des Hôpitaux de Paris* for March 7th, 1868, may be read a summary of the results of the more recent French researches upon this subject. These results are highly contradictory. Thus the Messrs. Ségalas, whose experiments were performed upon various animals, fully admit this absorbing power of the bladder. M. Demarquay, whose researches were confined to the morbid human bladder, considers this organ as barely capable of absorbing medicinal substances. MM. Kuss and Susini, on the other hand, absolutely refuse to admit this property. It may be well to say that these experiments were confined to the healthy bladder in man. The practical results derived from the observation of the four following cases, would tend to prove that if the absorbing power of the bladder is not great, it does really exist as well in the healthy as in the morbid condition of the organ. The effects of injections with chlorhydrate of morphia were carefully studied as to the light which they might reflect on this point. The injections were made by means of Pravaz's large syringe, and of a small elastic probe *à bout olivaire*, which enables the operator to keep a correct account of the quantity of fluid introduced. Each drop of the solution contained two milligrammes of chlorhydrate of morphia.

CASE 1.—N——, aged forty-five, was admitted into the hospital on Feb. 16th. She had been suffering from cystitis for the last five months, and for six weeks has been

unable to maintain the recumbent position for any length of time. She gets little sleep, and consequently has lost flesh, while her features bear the expression of pain. An injection of thirty drops of chlorhydrate of morphia (sixty milligrammes) into the bladder, which was first evacuated. No relief.

Feb. 17th.—Same quantity injected. Slight relief.

18th.—No injection was given in the morning, and the patient complained she suffered more than previously in the afternoon. At five P.M., sixty milligrammes of the same solution were injected. This gave notable relief till near midnight. During the night she passed urine only ten times, whereas, before being admitted into the hospital, she used to discharge urine forty and fifty times in one night.

21st.—Half an hour after the administration of an injection of thirty drops (same solution) symptoms of narcotism manifested themselves—congestion of the face, drowsiness, incoherent talk. Her neighbors in the ward said that she looked like a "drunken woman." No vomiting. This condition lasted till three o'clock. The same evening thirty drops were again injected, but with no fresh symptoms of narcotism.

22d.—Thirty drops injected in the morning, but the evening injection was withheld. The next morning she complained of this, saying that she had had no sleep the whole night, and had suffered intense pain.

23d.—Three injections of thirty drops each were administered, with considerable relief to the patient. From this time to the 30th of April the injections were continued, with the same favorable results as above mentioned; but the disease was then complicated by inflammation of the right kidney, and the treatment was suspended.

CASE 2.—M —, aged thirty-one, was admitted into the hospital on Feb. 19th. Has been suffering from cystitis for ten months. Thirty drops of the solution were first injected, and the next day there was much relief.

Feb. 22d.—Injection of twenty-five drops twice in the day.

23d (fourth day after admission).—The patient asserted that for six months he has never experienced the relief which he now feels after the injection of morphia.

25th.—Injections suspended.

26th.—The patient said he had suffered considerable pain during the night. The injections were resumed; and the introduction of thirty drops of the solution into the bladder gave immediate relief.

From Feb. 28th to March 4th twenty drops only were injected every morning, with no increase of pain.

March 4th.—The patient suffered somewhat more; but instead of increasing the quantity of morphia, an injection was administered with sixteen drops of a solution of bromide of potassium. These injections were continued till March 8th without abating the pain, whilst they were followed by much burning.

All local treatment was suspended until March 26th, during which time the pains, though persistent, were more or less intense. At the end of this period, however, they increased considerably; when, on an injection of thirty drops of the solution being administered, the patient experienced notable relief. The injections were then continued till the 12th of April, at which time symptoms of inflammation of the left kidney became manifest.

CASE 3.—A —, aged thirty-five, was admitted into the wards on March 14th. Cystitis of one month's duration. Fifty drops of the solution were immediately injected; and on the very next day there was considerable abatement of the pain. Next, sixty drops were given on two separate occasions, with the same good effects.

On the 21st (seven days after the patient's admission) it was stated that he passed water only four or five times during the night; whilst before his admission he was obliged to discharge urine every five minutes.

24th.—Thirty drops only were administered for the whole day. The next day the patient said he had suffered much more than he did generally. It was decided that the same dose should be tried for a few days; but the pain became so intense that the full dose of thirty drops, twice a day, was resorted to, with immediate relief to the patient.

CASE 4.—A —, aged seventeen, was admitted into the hospital on March 7th, with neuralgia of the left ovary. The disease had manifested itself at the age of fifteen, simultaneously with menstruation, and had persisted since then, increasing in intensity at every menstrual period. The patient on every such occasion was compelled to lie in bed. She presented no symptom of disease in connection with the bladder. On the very day she was admitted subcutaneous injections with chlorhydrate of morphia were resorted to. The sensitiveness to the remedy was so great that though only half a centigramme was administered, it brought on vomiting. By

degrees, however, it became possible to inject half a centigramme twice in one day. The pain abated considerably. On the 12th the menstrual discharge appeared, and was attended by much less suffering than usual.

On the 17th, M. Guyon bethought him of trying injections of morphia into the bladder. Twenty milligrammes were administered twice the same day. This was attended by no accident; and the relief, which had been obtained by means of the subcutaneous injections persisted.

22d.—As the solution of morphia, composed of two milligrammes to a drop, was wanting, Mr. Alling thought he would give a subcutaneous injection with half a centigramme of morphia, in order to afford some relief to the patient. The next morning she, of her own accord, stated that she had decidedly not derived the same result from the subcutaneous injection as from the preceding injection into the bladder. The vesical injections were therefore resumed. Twelve drops morning and evening were administered; and the patient declared that she felt great relief as soon as the first injection had been given.

From the 24th to the 31st of March there was no occurrence worthy of being noted; but on the 1st of April, after the administration of the usual injection in the morning, the patient felt symptoms of intoxication, which she spontaneously summed up thus: heaviness of the head; drowsiness; congestion of the face. This condition lasted for from five to six hours. It must be stated that on the eve she had taken forty-five drops of morphia; while her peculiar sensitiveness to the remedy above mentioned must be borne in mind.

April 2d.—The injections were discontinued, and bromide of potassium was tried in their stead, but with no good result. The patient's sufferings increased immediately; and in order to continue the treatment it became necessary to employ, simultaneously, subcutaneous injections with morphia.

"I have not space enough," concludes Mr. Alling, "to discuss these details as I would like; but I shall endeavor to sum them up briefly. In the first place, the efficacy of injections into the bladder seems evident. We see in Case 1 that the pain speedily abated, that the desire to pass urine was diminished in a remarkable degree, and that sleep was restored to the patient. In Case 2 relief was most speedy, since on the fourth day the patient declared that he had never felt such comfort for the last six months. In Case 3 the patient soon experienced relief. Sleep was restored to him; for whereas he had been obliged previously to pass urine every five minutes, he was so much better that he discharged urine only four or five times a night. I have had occasion in other cases to state a like amendment of the same symptoms. But it is mostly with our fourth case that there would be need to insist upon the particulars. Here the bladder was healthy, and M. Susini's experiments seem conclusive in favor of non-absorption in such cases. How then are we to explain the persistent relief derived from the employment of the injections, and the increase of pain as soon as these were stopped? With regard to the occasion when symptoms of intoxication were experienced, it may be objected that there was some slight breach of the mucous membrane. Obviously I cannot prove that this was not the case, though I am quite confident it was not. Before concluding, I must note the fact, that in this last case, each injection was followed by a sensation of burning, which was sometimes very intense, and lasted for from five to ten minutes. I know not, however, what part this symptom may play in the act of absorption, which seems evident to me in this case."

ART. 189.—*Observations on Rupture of the Urinary Bladder, with the History of a Case that ended in Recovery, in which the Peritoneal Sac was Washed out with Tepid Water injected through the Rent in the Organ.*

By HENLEY THORP, M.D., F.R.C.S.I., Medical Attendant Letterkenny Union Infirmary and County Fever Hospital.

(*Dublin Quarterly Journal of Medical Science*, November.)

Rupture of the urinary bladder is an accident so generally fatal that the history of an exceptional recovery is certain to be regarded with no ordinary interest. The following case recently occurred in Dr. Thorp's practice:—

"On the night of Friday, 28th February last, J. M'Auley, aged thirty, a respectable farmer, of sound constitution, sanguine temperament, and active habits, was thrown from his horse. Being intoxicated at the time of the accident, he could give no satisfactory account of the mode of its occurrence. The horse galloped home riderless; suspicions arose, a search was instituted, and shortly afterwards his owner, in a state of insensibility, was discovered on the roadside, about half a mile distant. In some twenty or thirty minutes consciousness returned. He then experienced a severe pain at the bottom of his belly, attended with an urgent desire to pass water, but no power of emptying the bladder. On visiting the patient four hours subsequently, I found him in a sitting posture, with his body bent forwards. He complained of an oppressive burning pain in the hypogastric region—there was a pressing inclination without the capacity to micturate—the abdominal muscles, more especially the recti, were rigid and tense, and any attempt to stand upright produced a great increase of suffering. He had neither vomiting nor rigor; nor did the surface of the belly present any contusion or other mark of injury. A full-sized gum elastic catheter entered the bladder without difficulty. At first no fluid escaped; but upon pushing the instrument onwards, and at the same time turning it a little on its axis, about a tablespoonful of bloody urine flowed out. No further quantity coming away, I withdrew the catheter a short distance, twisted it round in another direction, and again passed it backwards, when an additional ounce of a reddish fluid welled over, without force or jet. By changing the position of the patient from side to side, turning him over upon his knees, and substituting a silver for the gum elastic instrument, I at length succeeded in obtaining nearly half a pint of urine, mixed with blood. The patient expressed himself as much relieved; and having placed him in a half-sitting posture, with his shoulders well raised, I administered a teaspoonful of laudanum in a glass of water, and again introduced the gum elastic catheter, pushing its extremity not further than the cervix vesicæ, and when a few drops of clear urine distilled over, it was fixed in this position. I left the patient, but returned in a few hours—having in the meanwhile provided myself with a half-pint elastic bottle and stop-cock—and found him still complaining of the burning pain in the belly, although not so severe as at my previous visit. He had not slept during my absence, but the distressing desire to pass water had passed off. The instrument had retained its position, and a drop of clear urine escaped at intervals from its extremity. Withdrawing the gum elastic, I now introduced a silver catheter into the bladder. The organ felt contracted, and did not easily admit of the complete introduction of the instrument, nor could the latter be compressed, pushed onwards, or moved about with the same ease as previously. Furthermore, the manipulations caused much pain; and, accordingly, the gum elastic catheter, now mounted upon a strong stilet, shaped like a sound, was again passed into the bladder; its movements, likewise, were at first restricted and painful, until after cautiously probing and turning its point, it entered nearly its full length, when a different feeling of resistance was communicated, and it could be moved about with somewhat greater freedom. The stilet being withdrawn, a tablespoonful of reddish urine flowed away. The stop-cock of the elastic bag was next adjusted to the catheter, and tepid water, to the amount of three bagfuls, injected through the instrument. Each portion, when introduced, was retained for a couple of minutes, and then allowed to return through the catheter, so that not more than eight ounces were injected at a time into the abdominal cavity. At first the water returned of a reddish tinge, but the last half pint was clear and bloodless. Each bagful regurgitated in a slow and interrupted manner, and pressure had no influence in accelerating or otherwise altering the mode of its discharge. During these proceedings, which occupied about twenty minutes, the patient was caused frequently to change his position, so as to mix the injected fluid as much as possible with whatever urine remained in the peritoneal sac. As soon as the abdomen was emptied as far as practicable, the patient was again placed upon his back, with the pelvis well depressed, and the catheter withdrawn partially—that is to say, until its extremity only projected into the bladder; and when the urine commenced to drop away, the instrument was securely fixed with a proper jugum.

Ordered forty leeches to the lower part of the abdomen; when the leeches drop off, a warm bath for thirty minutes; afterwards, a bran poultice; one grain of opium and half a grain of calomel every second hour. Diet to consist of bread and milk, corn-flour pudding, arrowroot, rice, gruel, and barley-water.

"Sunday morning.—Patient is free from pain; countenance, good. He has no rigor; abdominal wall continues rigid and resisting; some tenderness of the hypogastrium when firm pressure is made thereon, but no distension; pulse quiet and natural—86; urine escapes *guttatim* through the catheter. Ordered—twenty-four more leeches, to be applied to the belly; pills and bran poultice to be continued. At this visit I had the advantage of consulting with Dr. G. Elliott, who kindly accompanied me to see the patient.

"Was sent for hurriedly on Sunday night, or rather Monday morning, at 4 o'clock A. M. The catheter had escaped from the patient's bladder during sleep. He awoke, suffering some pain, and had a slight rigor. Pulse 90. I re-introduced the instrument, and directed another dozen leeches to be applied. Continue pills. These latter had not been taken for some hours, the patient being asleep.

"Monday afternoon.—Going on well; no pain. Pulse 86, and soft. Catheter retains its place, and is acting satisfactorily.

"Tuesday, ten o'clock A. M.—The instrument again escaped from the patient's bladder during sleep. Nevertheless, after awakening, he passed, without difficulty or pain, a wineglassful of urine. No change in other respects. The catheter was again introduced and carefully adjusted. And as the patient, while sleeping, unconsciously tampered with it, precautions were taken to prevent him repeating the practice. Another dozen of leeches to be applied over the hypogastrium, where some tenderness continues, although the muscles are less tense and the abdomen softer. The pills are taken regularly and the bran poultice kept on constantly.

"Wednesday morning.—Patient slept well during the early part of last night, but awoke in the morning with a severe pain extending over the entire abdomen, which is tense, tender to pressure, and distended at its upper part. His countenance is greatly altered for the worse, and bespeaks much suffering; he had a shivering during the night. The pain, although constant, has exacerbations of greater intensity coming on at intervals, which the patient attributes to what he calls the 'working of the intestines.' Pulse 96, small. An emollient enema brought away a scanty hard motion. The evacuation was attended with much relief. Apply a mustard cataplasm over the whole abdomen, and smear it afterwards with half an ounce of mercurial ointment. Continue the bran poultice.

"Thursday.—Countenance still much depressed. Abdomen, although less painful, remains tense, and tender to pressure; pulse 90, unsteady, with an intermission; nausea and thirst are present. Patient's gums exhibit a diphtheritic appearance, and there is a slight mercurial fetor. Bowels moved at five o'clock A. M.; motion natural. Has not taken the pills for six hours. To have effervescent draughts every third hour, and two grains of gray powder and one of opium every second hour.

"Friday, March 6th.—Patient is rather improved since yesterday; salivation fairly established; mouth sore; abdomen less swollen, but still tender to pressure, more especially in the iliac regions. Pulse 86. Apply again the mustard cataplasm; stop pills with mercury and chalk; one grain of opium every second hour. On this day Dr. Carré, of Ramolton, accompanied me to examine the case and see the patient.

"Monday, 9th.—Since last report the patient has progressed most favorably. He has no pain, and the abdomen is soft and compressible. He takes, when awake, the grain of opium every second hour; nevertheless his bowels are moved once daily, and the dejections are natural. He omitted the bran poultice for a day, but some pain and uneasiness returning, he re-applied it with complete relief to these symptoms. The constant retention of the catheter having occasioned a purulent discharge from the urethra, the patient, possessing sufficient dexterity, was permitted to introduce the instrument for himself at

short intervals. The farinaceous diet prescribed in the first instance has not been deviated from up to this date. To-day he is allowed chicken broth.

"March 12th.—Catheter to be dispensed with. The patient has now the power of retaining his urine for several hours without inconvenience, and of emptying his bladder without difficulty. At this date, also, the opium pills and all other medicines were discontinued. He was allowed animal food, and permitted to leave his bed and walk about.

"On the 15th the patient complained of severe pain in the calf of the left leg, which was swollen and tender, without, however, redness or erythema; and on the 16th there was also tenderness in the groin, and along the course of the saphena vein. Rest for a few days in the horizontal posture, with stuping, relieved those symptoms, and on the 21st he was again able to be up and to take gentle exercise. By the end of the month he had no symptom of the injury remaining, save that he was obliged to rise sometimes twice in the night to make water. His appetite was good, and his strength, which had been greatly reduced, was fast returning. His convalescence is now complete. He enjoys excellent health. Has no vesical irritation whatever, and is able to retain his urine for the normal period."

ART. 190.—*On the Origin and Treatment of Stone in Boys.*¹

By THOMAS SMITH, F.R.C.S.

(*British Medical Journal*, August 8.)

In this paper, the author referred the existence of stone in the bladder, for the most part, to defective secretion from certain organs, whereby the kidneys were forced to excrete more than their due share of refuse material; or to disarrangements of the digestive organs, whereby abnormal substances might be formed and added to the urine, or the natural urinary excreta might be formed in excess. He endeavored to explain the frequency of stone among the children of the poor, and its rarity among those of the rich, and the equal liability of both classes to the disease in adult life. The ordinary and the unusual symptoms of stone were noticed. A case was related where the author had crushed a stone between his finger and a lithotomy-staff, thus relieving the child altogether of his disease. Attention was drawn to the great difference in the mortality of lithotomy, as drawn from general statistics, and as containing the experience of individual surgeons. As means whereby lithotomy might be facilitated and its mortality lessened, the author recommended that the bladder should be nearly empty at the time of operation; he described a method of manipulating the staff so as to diminish the size of the wound necessary for the extraction of the stone, and recommends the use of very long and slender forceps. The introduction of a canula surrounded by a conical plug of lint immediately after the operation was strongly advocated, and cases were referred to in the author's experience where he believed life had been saved by this means. The paper had appended to it a table of twenty cases of lithotomy in boys.

ART. 191.—*Two Cases of Stone in Girls: with Remarks.*

By THOMAS SMITH, F.R.C.S., Surgeon to the Hospital for Sick Children; Assistant Surgeon to St. Bartholomew's, &c.

(*British Medical Journal*, October 31.)

In selecting the method of cure for any particular case of stone in girls, undoubtedly the first and most weighty consideration, Mr. Smith says, is the safety of the patient, and next the preservation of the power of retaining urine. Thus, of the different means of cure—viz., lithotritry, the various modifications

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

of lithotomy, simple dilatation of the urethra, and dilatation combined with incision—there is no plan so generally suited to womanhood as lithotrity, since by it the stone can be removed with inconsiderable danger to life, and without risk of permanent urinary incontinence. While in all cases the size of the stone must in a great measure determine the plan of operating, the choice of an operation in children is still further restricted by their local peculiarities—namely, the small size of the vagina, the presence of the hymen, the irritability of the urethra and bladder, and by the want of self-control shown by the patient. On these accounts, the operation of lithotrity is unsuited to girls. Vesico-vaginal lithotomy also cannot well be practised—that is, the extraction of a stone through an incision in the vesico-vaginal septum behind the neck of the bladder; for this would inevitably destroy the hymen; and the small size of the vagina would embarrass the operator in his attempts to close the wound by suture.

Simple dilatation, dilatation combined with incision, and lateral lithotomy (as performed by Dr. Buchanan), have each their advantages in particular cases, and are the only methods of cure suitable for children. Though in girls the dilatability of the urethra and neck of the bladder is proportionately greater than in women, it can never be worth while to risk a permanent incontinence by overstretching the sphincter vesicæ; and this is no imaginary danger, since cases are recorded, even in children, where incurable incontinence has resulted from overstretching the neck of the bladder. The incontinence resulting from paralysis of these muscular fibres is too apt to be permanent. On the other hand, incontinence resulting from incision either of the vesico-vaginal septum or of the muscular fibres surrounding the neck of the bladder and urethra, if not recovered from spontaneously, is curable by surgical operation. Mr. Lane has suggested that in adults dilatation should not be employed when the stone is larger than an acorn; nor in a child when larger than a horse-bean. In children, the exact size of a stone, and the amount of stretching necessary or justifiable for its extraction, can be determined while the operation is in progress.

For children, dilatation is conveniently carried out during extraction by the blades of the forceps which hold the stone. If a well-shaped pair of forceps be used, very long in the blades, and slender, such an instrument forms an excellent dilator. It will be found that the exit of the stone can be much facilitated by a push from behind, with the point of the forefinger in the rectum. When also, during extraction, the stone has advanced some distance into the urethra, room may be gained, and the tension relaxed, by removing the forceps altogether, and pushing the stone from behind through the meatus urinarius with the forefinger from the rectum. By the same agency, also, the position of the stone in the blades of the forceps can be altered if desirable.

During extraction, if the stretching seem too great for the sphincter vesicæ to bear without risk to its integrity, the meatus and neck of the bladder can be divided to the required extent as they lie stretched over the stone. The tension being sufficiently relaxed, sutures of horsehair or fine wire can very easily be introduced through the divided ages while the stone is *in transitu* and the wound in full view. These may be fastened up when the stone has been extracted. It is almost impossible to introduce sutures after the stone has been extracted, and when the wound has fallen back in the recesses of the child's vagina.

CASE 1. Stone in a Girl aged seven.—E. McM., aged seven, was admitted into the Children's Hospital, under Mr. Thomas Smith's care, on October 18th, 1865. She had suffered from symptoms of urinary irritation for twelve months; on admission she was pale, haggard, and fretful; she had severe pain on micturition, and almost complete incontinence of urine; there was no blood in the urine. A stone could easily be felt from the rectum, or on introducing a probe through the urinary meatus. The child had for some months previously been treated for disease of the spine, with no relief to the symptoms. On October 21st, the stone was grasped laterally by forceps, which were slid over its surface with some difficulty, as the walls of the bladder closely grasped the calculus, and were at one spot adherent to it. As traction was made upon the stone, it became evident that the external orifice of the vagina was too small to admit of its passage.

The fourchette was therefore divided posteriorly towards the anus to some extent. This allowed the lower wall of the bladder to come into view. The vesico-vaginal septum was now divided longitudinally, beginning at the meatus urinarius, for about half an inch towards the os uteri. When it was evident that the stone could be extracted without further division of the soft parts, two silver sutures were passed; the one through the divided perineum, and the other through the wound made in the neck of the bladder. This was easily accomplished while the stone was *in transitu*, and while the edges of the two wounds were stretched tightly over the stone so as to be within easy reach of the finger. The extraction of the stone was materially assisted by pressure made from behind on the back of the stone by means of the forefinger in the rectum. During the operation the tension of the soft parts was considerable. The stone was adherent to the bladder at its distal end, and came away as if broken off, and afterwards there was found on the fundus of the bladder a piece of calculous matter very difficult to separate; so soon as the stone had been removed, the sutures were brought together. No symptoms followed the operation, and in a day or two the child began to hold her urine for a few minutes; a week later she could hold it for half an hour. A fortnight after the operation she was up and about, and could retain the urine for an hour at a time. The sutures were at this time removed. The wound in the perineum was found to be soundly healed, while that in the bladder was still un-united. Three weeks after the operation she was discharged, being able to retain her urine for three hours at a time during the day. At night the urine escaped involuntarily. Three months afterwards, the child was again admitted, suffering from complete incontinence; the wound in the vesico-vaginal septum was just as when first made. The edges were pared, and two silver sutures introduced by means of a needle shaped like a corkscrew, and having an eye near its point; a fortnight afterwards these sutures were withdrawn, and the wound was found closed to the extent that it had been brought together. A month later, the remainder of the wound was closed with three silver sutures, and in a fortnight afterwards the child was discharged, being able to hold her urine naturally by day, but occasionally wetting her bed by night. The stone was somewhat of an hour-glass shape, being pointed at the end which lay against the urethral orifice of the bladder, and constricted about its middle; its posterior extremity was rough and broken, where it was adherent to the bladder; it weighed 215 grains, and measured an inch and three quarters by three quarters of an inch.

CASE 2. *Stone in a Girl aged five.*—Mary Ann B., aged five, was admitted into the Children's Hospital, under Mr. Thomas Smith's care, on April 22d, 1865. She had suffered from pain and difficulty in micturition for six months. When passing urine, she kept one finger pressed against the roof of the vagina. A calculus was easily struck by a probe through the urethra, and it could be felt from the rectum. On April 22d the stone was extracted by means of forceps through the urethra; the fourchette of the vagina, and the neck of the bladder being divided to the necessary extent during the passage of the stone. The parts being very small, and the stone escaping rather suddenly at last, no attempt was made to close the wound in the bladder; indeed, had such an attempt been made, it would have been unsuccessful when once the stone had escaped. The hymen was not injured by the operation. The child, in the course of a week, recovered complete control over her bladder, and was shortly discharged cured. The stone was composed of uric acid, coated with triple phosphate; it was oval in shape, weighed 116 grains, and measured an inch and a quarter by seven-eighths of an inch.

ART. 192.—*The Medio-Lateral Operation of Lithotomy.*

By HENRY LEE, F.R.C.S., Surgeon to St. George's Hospital.

(*The Lancet*, November 7.)

At a meeting of the Medical Society of London, held November 2d, the author described the way in which he now performs lithotomy, and which he has

named the Medio-lateral Operation. He gave the particulars of three cases in which this operation had been performed. The first of these had occurred upwards of twelve months ago. The medio-lateral operation, he said, was performed in the following manner: The patient is placed in the ordinary position for lithotomy, and a grooved staff having been introduced, an incision is then made in the median line of the perineum from before backward. This incision should extend through the posterior half up the perineum, terminating two or three lines in front of the anus. From this point the incision is continued for a quarter of a circle round the front and left side of the rectum. The finger of the left hand may then be put into the wound, and the rectum pressed back, whilst an additional touch or two with the knife separates it still further from the parts in front. The forefinger of the left hand is now passed into the rectum, and the knife, with its back towards the bowel, is passed at the posterior part of the central incision, and in the median line, into the membranous portion of the urethra. With the finger as a guide this is done with great ease and certainty. A bistoury or knife, with a probe at its extremity, is then passed into the same opening, and made to slide along the staff into the bladder. The blade of the knife is then directed towards the patient's left side, and somewhat backward, and as it is withdrawn the heel of the knife passes in the direction of the original incision through the skin. The point of the knife remains very nearly in the median line. A free external incision is thus produced, involving no important parts, with a small opening into the bladder. The urethra being opened, the median line is reached with the greatest facility with the finger, and the incision into the bladder is in the same way very easily dilated. The forceps or any other instruments that may be used, are also introduced more directly into the bladder than in the ordinary lateral operation. In this operation all the usual accidents and difficulties which are likely to occur in lithotomy are guarded against. With the finger in the rectum as a guide, the urethra may be opened without difficulty, and a probe-pointed bistoury, being guided by a grooved staff, cannot well fail to enter the bladder. The incision into the prostate gland is made from within outward, and this he (Mr. Lee) considered an advantage. An incision made in the opposite direction partakes more or less of the nature of a stab, and the point of the knife, even when guided by the most skilful hand, will sometimes wander from the groove in the staff.

The medio-lateral operation for lithotomy is performed in far less time than it requires to describe it, and Mr. Lee has been impressed in operating both upon the dead and living subject with the facility with which it is accomplished. The instruments used are an ordinary staff grooved in the median line, a common narrow scalpel cutting on one side only, and a curved bistoury with a probe projecting two lines beyond the termination of its cutting edge.

In children a single incision with the scalpel is generally sufficient; but in adults the circular part of the wound should be deepened either before or after the urethra is opened. Should the stone prove large, there is no difficulty in obtaining more room at the neck of the bladder by making an incision in the prostate gland on the right side, as well as upon the left. This is easily accomplished by the probe-pointed bistoury introduced upon the finger, and guided by it.

The external incision in the medio-lateral operation combines, as it appears to Mr. Lee, the advantages of all the different incisions which have been recommended. It affords sufficient room for the use of instruments. These may be introduced in the median line, and the rectum is not likely to be displaced or injured. The operation as a whole is, he thinks, the simplest in conception, the easiest in execution, and the least liable to be attended or followed by any unfavorable complications, of all the operations for lithotomy.

ART. 193.—*The Results of the Operations for Lithotomy performed at the Manchester Royal Infirmary from 1853 to 1868.*¹

By GEORGE SOUTHAM, F.R.C.S.

(*Medical Times and Gazette*, August 15, 1868.)

The paper gave the results of thirty-eight cases of lithotomy operated on by the author at the Manchester Royal Infirmary, all of which were successful except one, the subject of the fatal case being a man in his seventy-ninth year, with enlarged prostate; the calculus extracted weighed two ounces, was spiculated, and formed chiefly of oxalate of lime and lithic acid. The ages varied from one year and nine months to seventy-nine years, and the weight of the stones from nine grains to five ounces. The cases were not selected, except that no adult has submitted to the operation where the calculus was supposed to be under the average size, and the urinary organs in a favorable state for lithotrity, of which there were seven. Full details of thirty-two cases were given, eleven of which occurred in adults; in six of these the calculi varied in weight from one and a half to five ounces, and in five from five and a half to seven and a half drachms. Taking into consideration that the most favorable adult cases were reserved for lithotrity, the author considered a mortality of one in thirty-eight proved that lithotomy is not the dangerous operation it is commonly held to be. He did not, however, wish to disparage lithotrity, which he considered the preferable operation, where the bladder, prostate, and urethra were in a healthy condition, and the stone of average dimensions, and he generally adopted it in private practice; but where complications occur, and they are not of a nature to contra-indicate operative interference, he believed lithotomy afforded the best prospect of preserving the lives of our patients. He pointed out some of the circumstances which he considered had contributed to the successful results in his cases. After alluding to the importance of preparatory treatment, several suggestions for facilitating the different stages of the operation were given. He advised free incisions through the skin, alveolar and adipose tissue, but those into the membranous and prostatic portion of the urethra should be very limited, the elasticity of the neck of the bladder in children and early manhood admitting of its free dilatation. To obviate the difficulty which sometimes occurs in reaching the urethra, he advised the direction of the knife to be altered according to the age of the patient. The pelvis of the child being smaller and placed more obliquely on the spine than in the adult, the bladder is almost an abdominal organ in early life, sinking into the pelvic cavity as this increases in capacity. Therefore, to find the urethra readily in children, the point of the knife should be directed obliquely upwards in a line with the inner border of the arch of the pubes; whilst in the adult it should be kept more horizontal. Additional facility in this stage of the operation is afforded by allowing the nail of the forefinger to grow longer than usual, which, passing more readily into the groove of the staff, becomes an excellent director for the point of the knife. Especial attention was paid to the prevention of the injurious effects of shock. Immediately the operations were completed, the patients were enveloped in a warm blanket, and on being placed in bed, bottles filled with hot water were applied to the feet and other parts of the body, until the sign of reaction set in. In the after treatment, the patients were allowed nutritious food as soon as the stomach was in a fit state to receive it. The paper was illustrated by drawings, and the calculi extracted were exhibited.

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

ART. 194.—*Treatment of Spasmodic Stricture of the Urethra.*

By WILLIAM SAVORY, F.R.S., Surgeon to St. Bartholomew's Hospital.

(St. Bartholomew's Hospital Reports, vol. iv.)

Beyond the all-important means of rest and recumbency, and warmth in the form of baths or otherwise, there are remedies which have powerful action in directly subduing spasm—chloroform for instance, which in cases of emergency will sometimes signally succeed, and enable us without difficulty to pass a catheter through an urethra which just before had proved impermeable. Opium—so often an invaluable remedy—is best administered as laudanum by the rectum; it may be given by the mouth, or morphia may be injected under the skin. Belladonna, or its alkaloid atropine, is sometimes useful, especially when locally applied; but, as a rule, Mr. Savory thinks they bear no comparison in efficacy to opium. Active aperients, too, are often strikingly serviceable. When spasm is associated with structural change or organic stricture, it may be controlled by the same means. When there is evidence of further mischief in the form of inflammation or congestion, local depletion or perhaps counter-irritation by other means than the application of cantharides may be advisable.

ART. 195.—*Calculus removed through the Urethra from the Bladder of a Child.*

By Dr. FLEMING.

(Dublin Quarterly Journal of Medical Science, November.)

At a meeting of the Dublin Pathological Society Dr. Fleming exhibited a calculus which he had removed with a urethral forceps from the bladder of a little boy under two years of age. The boy was suddenly attacked with retention of urine, having suffered from painful and frequent micturition for a few days previous. When he was brought to hospital he was forcing and straining to pass water, the bladder was distended as an oblong tumor, reaching from the pubes to the umbilicus. The penis was in a state of partial erection, and the child was dragging and pulling it most violently.

Dr. Fleming at once suspected, from the peculiar character of the symptoms, that there was a calculus impacted in the neck of the bladder or in the urethra, and having ascertained its position when relieving the retention of the urine with a silver catheter, he quickly dilated the urethra, and in the interim provided himself with a special forceps for the purpose, and was fortunate enough to catch the calculus as he now presents it to the Society, secured within the blades of the forceps. He remarked upon the importance of the diagnosis of such class of cases, and upon the paramount value of the early detection of a calculus of a size removable by so simple and efficient an operative expedient. He had removed in many instances, calculi from different portions of the urethra of children, but in none did he remember a case where a calculus caught *within the bladder* was so satisfactorily or with so much facility removed. Though by no means favorable to the operation of lithotripsy in children, he had yet provided himself with a plain-bladed lithotrite of Charrière which he purposed using had he failed with the forceps in the case under observation. Dr. Fleming exhibited the catheter and the forceps he was in the habit of using in such cases, as he attached some importance to the peculiar forms.

The calculus removed was small, was somewhat larger than a duck shot, was slightly roughened on its surface, and consisted wholly of lithic acid. It was obviously renal in its origin, and from the accompanying characteristic symptoms it tended to confirm the opinion inculcated by Dr. Fleming in his clinical records of injuries and diseases of the urinary organs, that many, very many of the abdominal sufferings so common in infantile and in child-life, are attributable to the unobserved escape of calculous concretion from the kidneys. Dr. Fleming

stated that he has found in the kidney of the fœtus in utero, and in not a few instances in that of the infant and of the child, small gritty particles consisting of the oxalate of lime or of lithic acid crystal impacted in the tubercular structure. He directed special attention to the remarkable dilatability of the urethra at this early period of life, as being of much practical moment.

ART. 196.—Treatment of Simple Varicocele of the Spermatic Cord.

By JOHN WOOD, F.R.C.S., Surgeon to King's College Hospital.

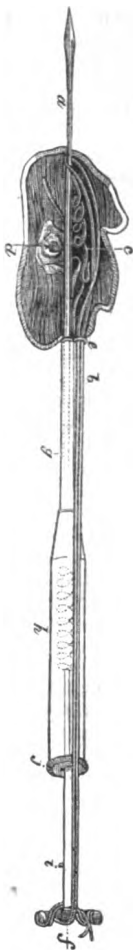
(*The Lancet*, July 4.)

Mr. John Wood, of King's College Hospital, in his late cases of operation for simple varicocele of the spermatic cord, has employed a small compressing instrument, acting by means of a spiral spring upon the wire or ligature inclosing the veins, in such a way as to exercise a steady, constant, and unintermitting pressure upon them. By the continuous ulcerative action thus produced, all that subsequent twisting or tightening up of the ligature upon the sensitive, ulcerated, and inflamed structures, which often gives so much pain to the patient as to amount to a repetition of the operation several times over, is altogether avoided; and the parts are cut through with less loss of time and pain to the patient, and inconvenience to the surgeon.

The instrument is very portable, light, and simple, and is adapted for application to the pin and wire commonly used by Mr. Wood, and now well known to the profession. It can also be applied as readily as a flexible ligature of silk, hemp, or silkworm's gut, or to a wire passed subcutaneously round the veins in the ordinary way.

The compressor consists of a small cylinder (*h*) containing in its interior a strong spiral spring, acting so as to protrude a piston rod (*i*), surmounted by a transverse bar or handle (*f*), upon which the wire or ligature is twisted or tied. At the opposite end of the cylinder is a socket tube (*g*), about three-fourths of an inch long, giving to the whole instrument the appearance and size of a small patent pencil-case. This tube is adapted to receive the cut end of a common harelip pin, when that is used to pass under the veins. Projecting from one side of its extreme end is a small ring (*e*) for the transmission of the wire or ligature (*b*), after which the latter is passed along the side of the cylinder to the handle at the end of the piston-rod (*f*), where it is secured. Before this is done the piston is set, with the spiral spring compressed and ready for action, by means of a small projection at *z*, which passes through a corresponding opening in the cap of the cylinder (*j*), and is there secured by a half turn given to the handle (*f*). When the ends of the ligature or wire are firmly secured at *f*, the spiral spring is set free to act by turning the handle of the piston back to its original position, so that the catch (*z*) is opposite to the opening at *j*. The spring can, if necessary, be changed to one more or less powerful by unscrewing the cap (*j*), and thus opening the cylinder in which the spiral works quite loose and unattached. For very large cases a strong spring or a larger instrument should be used. The whole apparatus is gilded to prevent the roughness and liability to break which sulphurization or oxidation produces on polished silver, iron, or steel surfaces when in contact with fluid discharges, and which sometimes renders a harelip pin so difficult to withdraw after its work is done.

The accompanying figure shows the instrument as applied to the arrangement of pin and wire employed by Mr. Wood. A section also is given of the scrotum



and spermatic cord, with the relative positions of the varicose veins (c), and the vas deferens and spermatic artery (d); separated by the pin (a). The veins are inclosed and compressed between the pin and the wire loop, which is passed over the point of the pin at one end, and at the other through the ring of the compressor (e) as it emerges through the opposite puncture in the scrotum. Mr. Wood applies the apparatus in the following way: First, the skin over the cord is pinched up into a fold, and transfixed by a long slender needle, the eye of which carries a double wire of gilt copper. When the wire is drawn through, the loop is detached from the eye of the needle by a spring arrangement somewhat similar to that of the baiting needle used by fishermen. Then a sharp curve or bend is impressed upon the wire at the place where it passes through the tissues, and into this bend the clump of varicose veins is pressed by the finger and thumb of the operator, when separating them from the vas deferens. The punctures in the skin, through which the wire emerges, will then be placed opposite to each other, and behind the level of the varicose veins, and through them a straight hair-lip pin can be passed across between the varicocele and the vas deferens, emerging at the identical punctures through which the wire passes. The loop end of the wire is then placed over the point of the pin, and both ends of the latter are cut off with a pair of pliers. One—the point end—is cut close to the skin, and the other at a distance sufficient to enable the socket tube of the compressor to be fitted on to it. The two ends of the wire are then passed through the ring at the end of the instrument, and secured firmly and tightly at the handle, *f*, while the spring is set by the catch at *z*. The latter is then set loose, and the action of the spring is suffered to tell upon the wire ligature, keeping it constantly taut, and always acting to produce progressive ulceration through the veins. This is usually accomplished in ten days or so, in cases not of unusual size, during which time the compressor is worn in a dependent position. No dressing is usually required, and hardly any discharge ensues when a metallic ligature is employed. The puncture opposite to the instrument usually heals over in a day or two. When the veins are sufficiently obliterated and divided, the pin and wire can be removed, either together or separately, as the case may require, and this is done easily, and with little pain or trouble. In using wire, care must be taken to avoid making kinks, which are apt to break off or cause obstruction in withdrawal. When the apparatus becomes caked, and stuck together by dried blood or discharge, a little warm water, previously used to soften the union, facilitates the removal.

ART. 197.—*Tumor of Strumous Origin, involving the Left Testis—Castration—Recovery.*

By HENRY GRAY CROLY, F.R.C.S.I., Surgeon to the City of Dublin Hospital.

(*Dublin Quarterly Journal of Medical Science*, November.)

The following case is placed on record by Mr. Croly:—

"M. C—, aged thirty-five years, a laborer, resident in the Queen's County, was recommended to me by my friend Dr. Joseph Clarke, of Mountmellick, and was admitted into the surgical ward of the City of Dublin Hospital, on the 13th of June last.

"*History.*—Three years ago the left testis became tender and swollen. It gradually increased in size to the present time. Within the last ten days a small spot ulcerated on the front of the tumor. The patient suffers pain like the 'sting of a nettle,' and he also experiences a dragging feel in the region of the spermatic cord and loins. He says he never suffered from venereal disease.

"*Condition of Patient and Appearance of Tumor on Admission into Hospital.*—His general health appears to be good. The left testis is about the size of a large orange. There are several large veins ramifying over its dependent part. The tumor is heavy. There is one ulcerated spot on the anterior part about the centre, and a prominent point which looks as if it would burst and form a similar ulcer. The spermatic chord feels thickened. There is no glan-

dular enlargement observable. The right testis is of natural size. The patient was under surgical treatment for many months, but nothing seemed to take any effect on the size of the tumor. On consultation with my colleagues it was decided that the tumor should be removed, as the testis was completely destroyed by the disease, and, by causing irritation, prevented the patient from working. I accordingly operated in the following way on the 17th of June: The patient was placed on the operation table, and, when chloroformed, his buttocks were lifted to the end of the table (the hair was removed previously from the pubes and scrotum). I grasped the tumor behind, and made an elliptical incision through the integuments with a scalpel, commencing at the external abdominal ring, and terminating at the lower part of the scrotum. A second elliptical incision of the same length was then made, which included the ulcerated part, and prevented any diseased integument being left. The spermatic cord was carefully dissected out, and held firmly by an assistant in Ricord's forceps. The cord below the forceps was divided, and the vessels were tied separately; the lower part of the cord was then drawn forwards, and the testis dissected from the bottom of the scrotum, to which it was firmly united by adhesions. In separating the organ from the septum the handle of the knife was used, to avoid wounding the artery of the septum or the opposite testis. Several bleeding vessels in the scrotum were tied. The wound was left open to allow the surface to glaze, and the patient was carried to bed. Pieces of ice were placed in the cavity, and the part was left exposed to the air. In a few hours, as all oozing ceased, I removed some small clots of blood, and sponged the entire surface of the wound with carbolic acid and oil. The edges of the wound were brought together with interrupted iron wire sutures.

"The section of the testis exhibited a well-marked example of strumous disease. A drawing was made by Mr. Burnside of the scrotum before operation, and a colored drawing of the section of the tumor."

ART. 198.—*On the Mortality arising from Abdominal Hernia, with Suggestions for its Diminution.*¹

By JOHN BIRKETT, F.R.C.S., Surgeon to Guy's Hospital.

(*British Medical Journal*, August 8.)

The author quoted the returns of the Registrar-General to show that the death-rate from hernia in the London districts averaged 149 per annum; and in England, 826. The causes of death were stated to arise from prostration, peritonitis, and injury of the bowels; and the fatal results could only be averted by reducing the protrusion as quickly as possible by the taxis, and when that failed by operation. He especially deprecated delay and violence in replacing the hernia, both these circumstances producing many deaths annually.

ART. 199.—*Strangulated Hernia of four days' standing relieved spontaneously.*

By J. F. THOMPSON, M.D.

(*American Journal of the Medical Sciences*, October.)

At a meeting of the Clinico-Pathological Society of Washington, Dr. J. F. Thompson reported the following case:—

"A man of fine physical development, about thirty years of age, was admitted to Providence Hospital, February 1st, with a large, congenital, scrotal hernia of the right side which had become strangulated. It had been down several times during his life, as large as on the present occasion, but he had always before succeeded in reducing it himself without difficulty. Three days previous

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

to his admission. in jumping from a carriage he felt the intestine pass into the scrotum, but had been unable to return it. That night the ordinary symptoms of strangulation came on, and vomiting continued up to the time of his being sent to the hospital. Efforts were made the next day after the accident by Drs. Wm. Dee and D. R. Hanger to reduce by taxis, but without success.

"First saw him, Feb. 2, at 10 o'clock, when he was in considerable distress, but not in as bad a condition as might be expected after a strangulation of so long standing. There had been no vomiting since early in the morning, but he had taken nothing to eat or drink.

"The tumor was large, hard, and almost perfectly round; bowels not moved since the accident; pulse excited but quite strong. Ether was administered and taxis tried faithfully for full half an hour without success. Efforts were made also by Drs. C. M. Ford and W. B. Drinkard with same result. The propriety of an operation was discussed, and it was decided to wait for more urgent symptoms. Ice was ordered locally, and one-third of a grain of morphia to be taken every three hours. 5 P. M.: Continued much the same as in morning, rather more comfortable, treatment continued, and enema ordered. The enema operated about 7 o'clock, and shortly after the bowel returned into the abdomen with a gurgling sound.

"Approaching the hospital the next morning about 11 o'clock, I was somewhat surprised to meet the patient returning home with a brisk walk.

"The very unexpected termination of this case renders it one of great interest. The preponderance of written authority would hardly justify the postponement of the operation when strangulation had already existed three days, but there are able teachers who would have approved the delay under the circumstances.

"The reasons for not operating were, that the hernia was congenital; that at the time the neck of the tumor was quite large; and that the symptoms were not very distressing. If the constriction had been very great, his condition, after three days, would certainly have been more serious; the circulation, however, was not entirely interrupted."

ART. 200.—On the Treatment of Blennorrhagic Orchitis by Strong Colloid Fluid.

By Dr. BONNIERF.

(*Giornale della R. Accademia di Medicina di Torino*, No. 6, 1868; and *Gazette Hebdomadaire*, No. 29, 1868.)

The utility of punctures in blennorrhagic epididymitis is a fact that has been practically demonstrated, and thanks to this treatment the surgeon may now reduce the pain and the duration of the affection. Compression, whether alone or combined with punctures, also diminishes the period of rest necessary for the cure of this complication of urethritis. Unfortunately, compression with strips of plaster cannot be applied without difficulty or be easily maintained; if the plaster be badly applied the compression becomes painful and insupportable. The employment of collodion promised at one time to furnish an efficacious compression and a powerful solvent; but all who have tried this plan of treatment have found that it caused much pain, so that the advantage of abridging the duration of the epididymitis is neutralized by the severe suffering caused by the local application.

Dr. Bonnierf combines punctures and compression, and for the latter purpose uses a strong liquid glue. Some small superficial punctures are first made with a lancet, and then a suspensory bandage saturated with the liquid glue is applied over the scrotum. The glue rapidly dries, and in the course of a few minutes the testicle is compressed by a firm and rigid bandage, which may afterwards be readily softened and detached on the application of a poultice or of cold water compresses.

According to Dr. Bonnierf the duration of the affection, or at least of the necessary repose, varies from two to six days. If this fact be confirmed, this new mode of treatment will deserve general notice, and probably be susceptible

of extended application. Thus, when after puncturing a hydrocele and injecting iodine, compression is employed for the purpose of bringing about resolution of the consecutive swelling, the plaster generally used might be replaced by the suspensory bandage, and the strong glue; this bandage might also be strengthened by several sheets of paper agglutinated together.

ART. 201.—*On the Treatment of Phagedenic Chancre by the Internal Employment of Calomel.*

By Dr. BELHOMME.

(*Bulletin Général de Thérapeutique*, June 30, 1868.)

Dr. Belhomme remarks that only two medicines employed internally have been considered efficacious in the treatment of phagedenic chancre, namely, opium and arsenious acid, and that although Ricord has sometimes succeeded by the mercurial treatment in curing the disease, yet the preparations of mercury have been regarded as injurious by most authors. The local applications recommended, however, are numerous, including the actual cantery, nitric, sulphuric and hydrochloric acids, chloride of zinc, nitrate of mercury, &c. But although mercury has been supposed by most authors to promote the appearance and spread of phagedena, and even, as it would appear, by Dr. Belhomme's admission, by himself in a former memoir, yet he now believes that calomel, employed internally, may be used with advantage in this affection. He was induced to try its effects by recollecting that one of his former instructors, Dr. Gibert, of the Hôpital St. Louis, occasionally administered calomel in non-syphilitic phagedena, and hence Dr. Belhomme used it also in syphilitic cases. But he has always given the mineral in small doses, repeated at regular intervals, the patient taking from five to seven centigrammes (a centigramme is the one-hundredth of a gramme, equivalent to about fifteen grains) every day in packets of one centigramme each, two in the morning, two in the afternoon, and two or three in the evening. Only four cases are related, and in them the treatment appears to have been successful; the duration of the cure is said to be from three weeks to a month in the simple cases, but much longer in the severe cases of ulceration.

ART. 202.—*Practical Remarks on the Treatment of some Diseases of the Genito-Urinary Organs.*¹

By W. F. TEEVAN, B.A., F.R.C.S., &c.

(*British Medical Journal*, August 29.)

The author divided the subject into four parts: 1, spermatorrhœa; 2, stricture of the urethra; 3, irritable bladder; 4, stone in the bladder. On this occasion, however, he could only notice the first two subjects. Mr. Teevan related the various opinions regarding spermatorrhœa, to the effect that whilst it was recognized as a complaint *per se* in France, its existence in this country was almost ignored. According to M. Mercier, spermatorrhœa was a very common complaint, and resulted generally from, and was a symptom of, indigestion. Mr. Teevan went fully into the causation and pathology of spermatorrhœa as related to him personally by M. Mercier, and he related two well marked cases which had come under his notice, and in which the existence of true spermatorrhœa had been established by microscopical examination of the urine, showing that spermatozoa were passing unconsciously to the patient, both in the day and night urine. The complaint was caused by one of the following, usually. 1, indigestion; 2, local irritation of some sort; 3, masturbation; 4, excess in *coitu*. Spermatorrhœa often existed in cases of disease of the brain and spinal cord. The treatment of spermatorrhœa varied according to its cause. In indigestion, a cure would be effected by removing

¹ Abstract of a paper read at a meeting of the Harveian Society of London.

the dyspepsia and by local treatment—electricity and the use of mild injections of the nitrate of silver—from five to ten grains to the ounce. If the involuntary loss of semen resulted from local irritation, that must be removed. If the spermatorrhœa was caused by excess in *coitu* or masturbation, the patient could be cured by large doses of the sesquichloride of iron—one to one and a half drachms three times a day, and cold bathing. This latter remedy was, however, very powerful either for good or for evil, and ought not to be used unless there was well established reaction. Horse exercise, carriage exercise, and walking were all bad in cases of spermatorrhœa, as they caused determination of the blood to the genital organs. Gymnastics and rowing were the best kinds of exercise. Cauterization was very rarely required in spermatorrhœa, and the best results followed the use of the bougie and mild injections of the nitrate of silver. Mr. Teevan then explained the causation and pathology of stricture of the urethra. No attention whatever had been paid in this country to the detection of stricture in its earliest stage. He showed how strictures might be recognized by the “bougie à boule” years before the generality of English surgeons could ascertain their existence. There are only two philosophical and surgical ways of treating stricture, either by gradual dilatation or by subcutaneous division. Most strictures of the urethra were best treated by the use of the “bougie Olivaire,” which was first introduced into English hospital practice by Mr. Teevan some time ago. The instrument figured in the *Lancet*, in Sir Henry Thompson’s lecture on stricture, as the “bougie à boule” was the “bougie Olivaire;” the former was for the detection of stricture, the latter for its treatment.

ART. 203.—*Improved Methods of Exposing Vesico-Vaginal Fistula.*¹

By SPENCER WELLS, F.R.C.S.

(*The Lancet*, August 22.)

The instruments used by Beaumont, Jobert, and others, before Marion Sims introduced his speculum, and Sims’ instrument as altered by Simon, were shown and described. The apparatus of Ulrich, of Vienna, in its complete form, and the portions of it used by the author, were shown separately. The objections to fixing a speculum in any other way than upon the body of the patient were explained; and Dr. Emmett’s self-retaining speculum was exhibited. As the fulcrum of this instrument was fixed upon one hip, the side or semi-prone position is necessary during the operation; and the instrument, even when enlarged, does not answer well in large or fat women. An instrument was then shown which has been altered from Emmett’s for the author by Messrs. Weiss. As the fulcrum is fixed upon the back, any position of the patient may be selected for operation, and the speculum may be so fixed in the vagina that it is not displaced by any movement of the patient. The author has operated with this instrument, and found that it enabled him to dispense almost entirely with any aid from an assistant.

ART. 204.—*Case of large Fibrous Tumor of Uterus removed by Enucleation and Avulsion.*

By JOHN SCOTT, M.D., F.R.C.S.I., F.R.S.E., Surgeon to the California State Woman’s Hospital.

(*California Medical Gazette*, July, 1868.)

The following case is placed on record by Dr. Scott:—

Mrs. J——, aged 45; married twenty-four years; one son living, aged 23 years. *History.*—Well up to five years ago, when a severe hemorrhage came on and lasted for a week. The following menstrual period another severe bleeding came on, which

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

lasted much longer, and from that time to the present—a period of five years—she has had constant hemorrhage for three out of every four weeks. The quantity lost at times, particularly at the catamenial periods, has been enormous, while at other times it has consisted of a constant passive drain, aggravated by the slightest exertion, producing such weakness and exhaustion that her death was looked on as imminent.

16th March, 1868.—*Present State:* Patient exceedingly anemic; pulse 120, weak, intermittent and compressible; cardiac bruit; sleeplessness, œdema, great debility. On examination, the uterus felt as large as a four and a half months' pregnancy; hard and lobulated to the touch, and lying over to left side; per vaginam, the organ was felt low down in the pelvis; the os thin and dilated to a little more than the size of a dollar, with a firm, smooth tumor projecting through it. Was able to pass the finger between the tumor and uterus for a considerable distance in front and to right side; but posteriorly and to the left side, it was found attached by connective tissue, which was easily broken up by the finger. The speculum revealed a glistening tumor protruding through the os, the distended uterus filling up the pelvis.

As the patient had but recently lost a very large quantity of blood, and it was feared that a recurrence of hemorrhage might prove fatal, I recommended her to submit to an operation for its removal, to which she at once consented. I at once divided the cervix with a scissors, and having controlled the slight bleeding with perchloride of iron on lint, I ordered an aperient preparatory to the operation. Drs. T. Bennett and W. H. Davies kindly assisted me, and the patient being fully under the influence of chloroform, I began the process of enucleation by breaking up with my finger, as high as I could reach, the connective tissue which bound the tumor to the uterus, and then used a uterine sound for the same purpose. I then fastened in the tumor a strong vulsellum, but, with the utmost traction I could employ, assisted by Dr. Bennet, I was unable to move the tumor in the slightest degree. As the os was insufficiently dilated to allow of the passage of the tumor, I enlarged the incisions on each side, and having got a blunt hook high up over the tumor, and with the vulsellum attached below, we did our utmost by traction to dislodge it, but without success. Every pull brought the uterus with it, till it at last seemed as if the organ would come out entirely. We then determined on endeavoring to divide the tumor in the uterus, and deliver it piecemeal. For this purpose, I managed to introduce an écraseur, carrying a steel wire, and, after some manipulation, got it well over the tumor and divided it. On extraction, we found that about one-third of the tumor had come away. At this stage of the proceedings, the patient appeared likely to succumb under the chloroform, but respiration was soon restored, and the operation proceeded with. I was now enabled to pass my hand higher up, and having enucleated as much as I could reach, I again got the écraseur in and cut through the greater portion of the remaining tumor, and having extracted it, I passed up my hand and detached the remainder. To ascertain that nothing was left, I again explored the interior, when I found a small fibroid at the highest portion of the cavity, and shelled it out with my finger and extracted it. The operation had lasted just one hour and ten minutes, and the patient had not lost more than six ounces of blood. The patient made an uninterrupted and rapid recovery, and since then has continued to gain health and strength, and has no return of the bleeding; and the following menstrual discharge lasted between four and five days, and then disappeared. I requested an examination a month after the operation, and finding that the uterus remained harder and somewhat larger than natural, and that a whitish discharge then existed, I dilated the cavity with a sponge tent, and injected tincture of iodine, with the happiest effects.

The tumor weighed two pounds, was seven inches long, twelve inches in circumference, nodulated, and had a distinct fibro-cellular investment. It had evidently been an intramural growth, its nidus being high up in the left wall of the fundus, from which it had been extruded by uterine contractions.

ART. 205.—*On the Statistical Results of Ovariectomy.*

By M. KÉBERLÉ.

(*Gazette Médicale*, No. 33, 1868.)

The following returns of operations performed from 1862 to 1868 were presented to the Académie des Sciences on July 27.

The gravity of ovariectomy bears a proportion to the complications presented

by the operation. The bad results obtained in former times ought above all to be attributed, independently of the operative proceeding, to postponement of the operation until the affection was complicated and beyond the reach of operative treatment.

Statistics of ovariectomy operations in order to be satisfactory should give the following results:—

Cases without adhesions ought to furnish from 90 to 95 cures out of 100.

Cases with slight adhesions ought to furnish from 70 to 80 cures out of 100.

In severe complicated cases, with very vascular adhesions, the mortality varies very much. The surgeon may consider himself very fortunate if he obtains from 30 to 50 cures out of 100 cases, particularly if those cases which present small chances of cure be not systematically rejected; and if the practice of exploratory incisions and unfinished operations be not adopted under these circumstances, one ought to obtain at least from 40 to 60 cures out of 100 cases.

TABLE I. M. Kœberlé's experiences of ovariectomy have supplied the following results:—

	Cures.	Deaths.
Cases without adhesions	20 17	3
Cases with slight adhesions	16 13	3
Cases with extensive adhesions	33 15	18
	69	24

None of these operations were incomplete. The tumor was extirpated in every instance, in spite of the most serious difficulties.

By making a comparative analysis of the second hundred operations performed by Mr. Spencer Wells, one finds the following results:—

	Cures.	Deaths.
Cases without adhesions	38 31	7
Cases with slight adhesions	40 80	10
Cases with extensive adhesions	22 11	11
	100	28

More than 6 operations not accounted for in this table were incomplete.

TABLE II. The gravity of the operation was in proportion to the loss of blood. Out of 18 cases in which the loss of blood did not exceed 50 grammes, one only was fatal. With from 50 to 1000 grammes of blood the mortality was evidently the same. In 43 cases there were 16 deaths, or about 37 per cent. With from 1000 to 2000 grammes, there were 5 deaths in 6 cases. In the two cases where the loss of blood exceeded 2000 grammes, both patients died.

TABLE III. The mortality of ovariectomy was in exact proportion to the duration of the operation.

In 9 cases in which the operation did not last longer than half an hour, not one was successful. In 28 cases in which the operation lasted from one-half to one hour, one-fourth of the patients succumbed. When the operation lasted from an hour to an hour and a half, the mortality increased to one-third. When the operation was prolonged for two hours, the mortality was two-thirds. In 5 cases in which the operation lasted longer than two hours, all the patients succumbed.

TABLE IV. The causes of death were the following: Septicæmia in 7 cases; peritonitis in 7 cases; peritonitis and septicæmia in 6 cases; internal strangulation in 1 case; enteritis in 1 case; intestinal tympanitis in 1 case.

TABLE V. Death occurred on the first day of the operation in 1 case (the twenty-second hour); in 5 cases on the second day; in 7 cases on the third day; in 4 cases on the fourth day; in 1 case on the sixth day; in 3 cases on the seventh day; in 2 cases on the eighth day; in 1 case one month after the operation.

TABLE VI. In 13 cases both ovaries were removed simultaneously, and in two of these cases the uterus was extirpated at the same time as the ovaries; there were 6 deaths and 7 cures.

TABLE VII. The age of the patients operated upon varied between seventeen and seventy-two years. The greatest proportion of cures occurred among females from thirty to thirty-five years of age. Above fifty years the mortality was very considerable—5 out of 6 cases.

TABLE VIII. Adhesions to the abdominal wall, and to the epiploon and intestine, were met with in a somewhat greater number of cures than of deaths. Pelvic adhesions, particularly seated in the region of the uterus, gave rise to a considerable mortality; it was the same with adhesions to the liver and mesentery.

TABLE IX. In cases where the patient had been punctured, the mortality was one-third; when puncturing had been performed once, the mortality was one-fourth; all the patients (six in number) who had been punctured twice, recovered; the remaining patients who had been punctured from three to eight times, succumbed in a large proportion; out of 3 cases in which iodine had been injected, 1 only recovered.

TABLE X. The mortality was in proportion to the length of the incision.

TABLE XI. The mortality was in proportion to the weight of the tumors. Out of 3 cases, in which the weights were between 1 and 5 kilogrammes, all recovered. Out of 51 cases, in which the tumors weighed from 5 to 20 kilogrammes, there were 35 recoveries, or two-thirds; 2 cases only out of 10 recovered, in which the weights were between 20 and 50 kilogrammes.

TABLE XII. Vomiting from chloroform had no influence upon the mortality in cases without adhesions, but a very considerable influence after severe operations.

TABLE XIII. M. Kæberlé's operations from June 2, 1862, to June 1, 1868, are thus arranged:—

First year	6 cases	1 death.
Second year	4 “	2 “
Third year	8 “	2 “
Fourth year	9 “	4 “
Fifth year	19 “	8 “
Sixth year	23 “	6 “
	<hr/> 69	<hr/> 24

The relative results with severe cases were much improved in the course of the year 1867–68. Out of 11 severe cases there were 6 cures; whilst in the two preceding years 2 cures only were obtained out of 12 severe cases. The superiority of the results in recent years is due to the improvements applied to the operative proceedings of ovariectomy, which improvements are now adopted by all surgeons, and in the introduction of which M. Kæberlé has taken a prominent part. The most important of these improvements consist particularly in applying to operative proceedings the knowledge we at present possess concerning the properties of living tissues.

ART. 206.—*A Successful Case of Cæsarean Section.*

By Drs. D'AQUIN, BRICKELL, BORDE, and BAYON.

(*New Orleans Journal of Medicine*, July, 1868; and *New York Medical Journal*, October.)

This case is of peculiar interest on account of the condition for which the radical interference by abdominal section was advised and undertaken.

The following is Professor Brickell's account of the patient when he first saw her in consultation with Dr. D'Aquin. She had then been in labor about ten days. Dr. D'Aquin having already been in attendance five days, and previously to this a midwife had been with the patient for five days, during all of which time the labor pains had been constant and severe:—

Her condition when I saw her at 2 P. M. was as follows: Face expressive of great anxiety; skin of dusky hue; lips distinctly approaching lividity; tongue red, with a

broken white fur over the middle; respiration twenty-six; pulse one hundred and forty-three to the minute, of pretty good volume, but losing force; all uterine action ceased for fifteen hours past. Examining *per vaginam*, I found the vaginal secretion almost arrested and the temperature of the parts much elevated. The lips of the uterus were enormously swollen (probably three quarters of an inch in thickness), quite severely rent in three places, and were jutting prominently into the summit of the vagina. They and the whole vaginal canal were excessively sensitive, so much so as to cause loud complaints from the patient, who was certainly very courageous. The neck of the womb was very long, and admitted of the tolerably easy passage of two fingers, but a third finger put the parts distinctly on the stretch, and holding the three in a line, and advancing them steadily, I could distinctly feel the tissues of the neck breaking. Indeed, such was the friability of these parts, I am sure that I could, by firm pressure, have broken down the tissue of the lips with my finger and thumb. The idea distinctly conveyed to my mind was, that the parts were on the verge of sloughing. The collapsed head of a putrid child presented high above the unyielding neck, and a portion of the scalp was lying in the vagina. The odor emitted was extremely disagreeable.

In addition to all this, there existed a band across the posterior wall of the vagina, alluded to by Dr. D'Aquin, and which appeared to me as an extensive and strong cicatricial mass of semi-lunar shape, and very seriously narrowing the canal.

My conviction was soon clear that the delivery of the woman *per vias naturales* would be a most difficult and tedious operation, and I promptly recommended the Cæsarean section on the following grounds:—

1. No considerable part of the child could be drawn through the constricted cervix uteri, now so friable, without laceration, the extent or direction of which could not be controlled.

2. In consequence of the first proposition, the child would have to be taken away piecemeal; and the vaginal canal being dry, and of very limited capacity, the opening into the uterus very limited, and the child high up, this operation would be very tedious.

3. The excessively sensitive condition of the parts, and the necessarily tedious nature of the operation, would necessitate the use of chloroform, and the prolonged administration of any anæsthetic would seem to be contraindicated by the rapidity of the circulation and respiration; together with the existing degree of carbonization, the result of greatly prolonged labor.

4. The lips and neck of the uterus seemed already on the verge of sloughing, and prolonged manipulation would hasten such result, and would, in my opinion, endanger the woman very greatly.

These points were urged in consultation, but some great fears of Cæsarean section being expressed, I proposed to try and demonstrate whether anything could at all readily be accomplished by instrumental means. I first tried faithfully to apply a pair of delicately-made Hodge's obstetric forceps to the head, but it was a failure, there being no adequate room for the introduction and adaptation of the second blade. I then tried faithfully, during half an hour, to reduce the head piecemeal with Meigs's craniotomy forceps, but there was so little room in the vagina and cervix for both the hand and instrument, that the progress was lamentably slow. To my mind the proposition was clear that many hours would be required for piecemeal delivery, that an anæsthetic would be absolutely necessary, and that the result of prolonged manipulation would be fearful.

The consent of the patient and her friends being obtained, the operation of Cæsarean section was performed in the usual way. The points of interest in the operation were—

1. An almost entire absence of hemorrhage from the abdominal incision.

2. No hemorrhage consequent on stripping the placenta from the surface of the uterus.

3. The failure of the uterus to contract after its contents (the child had been dead some days) were removed; of course there was a free hemorrhage from the incision through the uterine walls, and to control this bleeding, silver sutures were passed through the uterine walls—the ends being left about a quarter of an inch in length, and folded smoothly down on the uterine surface. Five months subsequently to the operation no inconvenience in any way had been manifested by the presence of the sutures in the abdomen. The mode of dressing the external or abdominal incision is worthy of note, for we believe

that the accumulated weight of dressings often used is only a hindrance to the prompt healing of the wound.

The surfaces of the abdominal wound were carefully sponged and brought together with fine interrupted sutures of strong silver wire—the same being plunged deeply through all the tissues, peritoneum included. Above and below and between the sutures, broad adhesive strips were placed, the same reaching across the abdomen; at right angles and across these four other strips were placed, one across the ends, and one on either side of the wound; and over this a light cotton bandage was placed to support the abdominal walls, and the result was adhesion by the first intention.

(c) CONCERNING THE UPPER EXTREMITY.

ART. 207.—*On Carbolic Acid in the Treatment of Boils, Whitlows, and Abscesses.*

By C. J. CLEBORNE, M. D., Surgeon U. S. N.

(*American Journal of the Medical Sciences*, October.)

As carbolic acid is exciting so much attention at the present time, Dr. Cleborne gives his experience with that article in the treatment of whitlows, boils, and abscesses. During the past year he has had an unusually large number of these cases on board ship, and being dissatisfied with the usual mode of treatment, he determined to try the effect of carbolic acid. This he did by making a free opening so soon as fluctuation could be detected, and when all of the pus had been discharged by gentle pressure, he either injected or swabbed out the cavity with the ordinary liquid carbolic acid of the shops, after which he applied a cold-water dressing. By this treatment further suppuration was prevented, and the wound healed so rapidly that the patient returned to duty in two or three days. In some cases, after evacuating the pus, and using the acid, he drew the edges of the wound together with isinglass plaster, and in twenty-four hours it entirely healed.

In the treatment of gonorrhœa, Dr. Cleborne has not been satisfied with the liquid carbolic acid. As an injection, he says it caused too much pain, and seemed to aggravate the symptoms when used even in the proportion of two to five drops to the ounce of water. These objections, it is said, do not apply to the crystallized acid of Merck, or the chemically pure article of Calvert, which may be used for this purpose in the proportion of two to five grains to the ounce of oil of almonds, or diluted glycerin.

ART. 208.—*On Traumatic Luxation of the left Wrist backwards.*

By Dr. GUYON.

(*Gazette des Hôpitaux*, No. 66, 1868.)

On May 15, 1868, P— Hippolyte, aged thirty years, a stone-mason, received an injury to the left hand, for which he was immediately brought to the hospital. The following is an account of the exact configuration of the injured region, which was examined before the appearance of any inflammatory swelling.

At first sight it seemed impossible to consider the injury as any other than a backward dislocation of the hand; on the dorsal aspect of the wrist could be seen distinctly a regular projection, resembling exactly the form of the carpus. This projection corresponded to the dorsal surface of the hand, and towards the forearm was in relief, and clearly defined, and the more distinctly as the skin formed two very marked transverse folds in the groove defining the inferior line of demarcation. This point was placed at a distance of four centimetres from the line of flexion on the anterior surface of the wrist. In front a groove was observed which seemed to be larger and much less regular; this was about five millimetres below the line of flexion of the wrist, from which it was separated by

a thick fold of skin. To the touch this anterior projection seemed very irregular, and the osseous index the most in relief was so abrupt as to give rise to the question whether one had not to deal with the extremity of a broken fragment. But it could soon be easily recognized that the anterior margin of the lower extremity of the radius and the styloid apophyses had been carried forward; the position of the cubital apophyses showed that this bone was carried forward less sensibly; in addition it had not in any way been moved outwards.

By comparing them together it was found that the two projections were very dissimilar, and differed both in form and position. The dorsal projection reached towards the forearm, and was about four centimetres from the fold of flexion; the palmar projection, on the other hand, approached this fold to within five millimetres.

The tendons were stretched over both projections, but it was not noticed that the skin was elevated by the external tendons separated from the radius. As has been already remarked, the skin formed two transverse folds above the dorsal projection. The hand was not deviated from the axis of the forearm, the fingers were moderately flexed.

The patient suffered great pain, but, though much excited, was able to give a clear account of the accident which had happened to him. Wishing to change the position of an enormous stone on which he had been working, he moved it gradually with his right hand, whilst with his left he prevented it from slipping too rapidly. He soon perceived that under the influence of the great weight which it sustained, that the left hand was becoming excessively bent. He attempted to remove it, but the elbow was arrested by another large stone placed behind him, and so the first stone continued to press with all its weight upon the palm of the left hand, whilst the elbow supplied a fixed point d'appui; at this moment he neither heard nor felt any cracking, but felt severe pain. He was soon freed by his fellow workmen and conducted to the hospital.

After a mould had been taken of the injured extremity, the man was put under the influence of chloroform, and a close and careful examination made of the displaced parts. It was then clear—1st. That the surgeon had clearly to deal with displaced articular surfaces. 2d. That the lower extremity of the radius was not the seat of any solution of continuity. Upon this point particularly M. Guyon made as close an examination as possible. 3d. That the apophyses of the radius and ulna were not fractured. 4th. That the inferior radio-ulnar articulation had undergone ligamentous laceration, as it was possible to make one osseous extremity move upon the other.

Reduction was accomplished readily and without any crepitation; the limb was placed between two moderately firm splints, which confined the hand and forearm. These, however, were soon removed, as there was considerable swelling in the evening, and on the following day numerous sero-sanguineous bullæ. All apparatus was abandoned, and the limb inclosed in poultices.

The swelling was reduced in the course of a few days, and it was then found that the displacement had not returned. Pressure upon the lower extremity of the radius and the styloid apophyses gave no pain; the joint at the dorsal aspect of the wrist was very tender, and at this part there was an appreciable projection of the carpus. By comparing the left limb with the mould taken before reduction of the dislocation, it was found that the arm, measured from the point of the olecranon to the end of the fingers, was longer by two centimetres. By comparing the left arm with the right, the styloid apophyses of both arms were found in the same position—that is to say, both radial apophyses descended beyond the apophyses of the ulnæ. Finally, the right and left radii were of the same length.

Dr. Guyon remarks with regard to this case, that with all the above-mentioned symptoms one has a right to insist upon luxation of the wrist with or without some small and insignificant fracture. This latter is in fact the sole point in the diagnosis which is very difficult, if not impossible, to resolve. The luxation in this case was not a simple one, as it was associated with diastasis of the inferior radio-ulnar articulation. But it is not the greater or less amount

of simplicity of a luxation that is in question ; it is the fact of the luxation itself, and the absence of any fracture of the lower end of the radius.

ART. 209.—*Simple Ganglion of the Wrist successfully treated by emptying the Cyst and applying Modified Pressure.*

Under the care of JOHN D. HILL, F.R.C.S., Surgeon to the Royal Free Hospital

(*Medical Times and Gazette*, October 24.)

In out-patient practice simple ganglion of the wrist is frequently seen as the result of injury, and, from the frequent reappearance of patients troubled with this complaint, Mr. Hill was led to perform a series of experiments in the various remedies suggested by surgical authors. Mr. Hill claims no originality for the principle of the method which he brings forward, but merely publishes a few facts with a view to show that the cyst may be emptied by a simple puncture, and modified pressure can be effectually and conveniently used in the treatment of these cases without danger to the tendon, and with but little inconvenience to the patient. The four following cases, without selection, are taken from his note-book :—

CASE 1.—Mary J., aged forty-two, admitted as an out-patient May 12, 1865, with a ganglion connected with the extensor secundi internodii pollicis tendon of the right arm, which had troubled her more or less for three years. It came on after a sudden sprain in an altercation with her husband, during which he violently twisted her hand ; various remedies had been applied, including rupture, pressure, iodine, &c., but it was now worse than ever, and as large as a marble, and considerably affecting the movements of the tendon. A needle was first introduced into the bursal tumor, and its contents squeezed out ; a piece of sheet lead was then cut two inches square, perforated by four holes on opposite sides, covered with wash leather, and beaten slightly concave ; four pieces of strong ligature silk were passed through the perforations on either side and fixed with a slip knot. This was now adjusted over the bursal sac by means of a crucial piece of strapping. A piece of gutta-perch one-eighth of an inch thick, four inches long, and two wide, was next moulded to the flexor aspect of the arm, extending nearly as far as the bend of the wrist, having been previously perforated with four holes on opposite sides and covered with wash leather ; the silken cords were now passed through the perforations in the gutta-percha and tied in a knot on the outside of the latter substance sufficiently tight to produce good pressure without discomfort. Occasionally these were removed and replaced, the patient having the whole time partial use of the hand, and at the end of six weeks (June 24) were removed altogether. I saw her six months afterwards, and there had been no return of the tumor, although she had been using her hands in domestic work.

CASE 2.—Elizabeth F., aged twenty-six, was admitted an out-patient under Mr. Hill's care, July 14, 1865, with a large simple ganglion connected with the sheath of the extensor carpi radialis longior et brevior tendons of right hand. States that she has suffered seventeen months with weakness of the hand, which she attributes to the ganglion. It first came on after wringing clothes in washing. It is now as large as a filbert ; on two occasions it has been dispersed by sudden pressure, but it returned again in a few weeks. Mr. Hill adopted the same treatment, kept on the apparatus for five weeks, and with a successful result. Accidentally she came under his observation twelve months subsequently (August 1, 1866) with a fracture of the left ulna. Mr. Hill found that she had no return of the ganglion, and that the weakness of the hand had disappeared.

CASE 3.—Mary S., aged twenty-three, admitted under Mr. Hill's care April 8, 1866, with a large ganglion connected with the common extensor tendon ; it had troubled her for three years, and came on after a violent twist ; various treatment had been applied by Mr. Hill with but temporary relief. The treatment carried out in the other cases was applied in this, and kept up for two months (June 2), when it was discontinued.

Seven months after Mr. Hill found that she had no return, and that the wrist was quite strong.

CASE 4.—Elizabeth B., aged twenty-seven, admitted under Mr. Hill's care October 4, 1866, with a ganglion as large as a marble connected with the common extensor tendon, which had caused her inconvenience for nine or ten months. Mr. Hill adopted the same course for six weeks.

Ten months afterwards there had been no return.

ART. 210.—*Excision of the Elbow.*

By MAURICE H. COLLIS, F.R.C.S.I., Surgeon to the Meath Hospital.

(*British Medical Journal*, October 24.)

Mr. Collis lately operated in the following case:—

Mrs. M—, aged twenty, was attacked with acute synovitis after parturition. The inflammation ran on into the suppurative stage; and Mr. Collis, who then saw the patient, was anxious to lay the joint freely open, after the manner of Mr. Gay. In this he was overruled, and drainage was tried with temporary benefit. After a few weeks the tubes seemed to cause special irritation, and had to be withdrawn. The patient's strength began to fail; hectic set in, and, to save life, Mr. Collis operated on the 23d of October. He made a single vertical incision at the back of the joint; and, keeping close to the bone, laid bare and removed the articular ends of the radius and ulna, and two successive slices of the humerus, the first showing some softness of the surface, with the gouge, forceps, and scissors; he further removed all diseased structures, whether osseous, periosteal, or synovial. There was much genuine pulpy thickening of the synovial membrane, with softening of the bone where contiguous to it. The cartilages were not much affected; they were eroded in one spot and another, but generally healthy and adherent. Mr. Collis pointed this out as an example of the mode in which disease, beginning in the synovial membrane, may extend to the bone. One or two superficial vessels were twisted, and the wound was wiped out with carbolic oil. The margins were brought together by means of wire sutures, passed rather deeper than usual, the surface being allowed to glaze for some hours before they were tightened. The limb was placed on a rectangular splint with pads covered with gutta-percha paper. It was not moved for a fortnight, the parts being daily sponged and cleaned with carbolic glycerine and water. In less than three weeks the patient was sitting up; the wound was nearly healed, and with every promise of a successful termination.

ART. 211.—*Amputation of the Right Arm at the Shoulder joint, and Excision of the Scapula for Severe Injury of the Limb.*

By T. VINCENT JACKSON, M.R.C.S.

(*Medical Times and Gazette*, August 15.)

This case, which was communicated to the British Medical Association, at its late meeting at Oxford, by Mr. V. Jackson, was that of a man admitted into Wolverhampton General Hospital, December, 1864, having previously been knocked down on the railway by the buffer of an engine, the wheel of which passed over his arm. The injuries were so severe that the removal of the limb at the shoulder-joint, followed by excision of the scapula, offered the only chance of saving life. The author drew particular attention to the fact that the scapula had been excised by sawing through the acromion process, thus saving the point of the shoulder—the first time, in fact, that this had been done, all previous excisions of the bone having involved a portion of the clavicle.

ART. 212.—*On Caries Sicca of the Shoulder-Joint.*

By Professor R. VOLKMANN.

(Berliner klinische Wochenschrift, iv., 43; and Schmidt's Jahrbücher, No. 4, 1868.)

Professor Volkmann's communication consists in a report of the anatomical condition of three shoulder-joints removed by resection, and also of a fourth taken from a patient who had succumbed to typhoid fever. A clinical analysis is also made of five other cases which were observed in Professor Volkmann's clinique at Halle.

The name of caries sicca, which disease is not to be confounded with the arthritis sèche of French surgeons, is given to an inflammatory atrophy, generally somewhat acute, of the bones and especially of their articulation, which without any suppuration are corroded and penetrated at their surfaces in the forms of irregular perforated excavations, by a spare and very firm granulation tissue, which is relatively deficient in bloodvessels; very important defects are thus produced without any external swelling or formation of fistulæ, the integument remaining intact.

This disease differs from the ordinary cases of fungous articular inflammation, in the first place, by its presenting an almost sclerotic condition of the granulations, which are closely adherent to the roughened bases of the cartilaginous deficiencies. The synovial membrane, studded with moderate sized but very dry granulations, is closely united to the sides of the joint ends, and at the same time a membranous and vascular structure is formed between the articular surfaces, so that the cavity of the joint at an early period is obliterated either entirely or to a very great extent. There is also progressive destruction of the epiphyses. Professor Volkmann found on microscopic examination of prepared specimens, that the granulations, or at least part of them, proceeded from a tissue metamorphosis and a calcification of the bone; he perceived in the bone tissue near the destroyed surfaces a thin curved line of calcification, and the basis substance, which had become filamentous, passing directly into the superjacent non-vascular layer of glassy granulations. The medullary tissue, the periosteum, and the synovial membrane were in all cases much less affected than the tela ossea itself. With regard to the coarser appearances, the irregular contours of the patches of destruction observed in caries sicca, contrast very sharply with the more superficial defects which are usually to be found in chronic joint diseases proceeding from the synovial membrane. They remind the surgeon in many respects of the honeycomb condition of the osseous tissue found in tuberculosis of the bones and spina ventosa, although Volkmann has never discovered any reason for attributing caries sicca to tubercle, scrofula, or indeed to any constitutional affection. In addition to these defects, Volkmann observed in the cases investigated by him, that there were signs of a general concentric atrophy of the head of the humerus. The cervical portion, apparently normal or at least free from any external defect, was much contracted in diameter; the cortical substance, however, retained its normal thickness and consistency, but was somewhat sclerotic. This sclerosis Volkmann is inclined to consider as partly the result of a shrinking of the bone *in toto*, and of the consequent contraction of the meshes of the diploë. The articulating head of the bone itself, excluding its carious condition, presents exactly the signs of atrophy; it is flattened especially from before backwards, the two tubercles seem to be compressed, and their bone tissue is sclerosed. In one very marked case, a small irregular portion of cartilage in a healthy condition was still firmly seated upon the bone, and presented very distinctly in its deepest layers a broad calcification zone of growing bone. Infiltration of the periarticular tissues and osteophytic formations which occur with other similar inflammations, are almost entirely wanting in caries sicca. Since it is the rule that no proper suppuration is ever observed, and that spontaneous pain is most frequently absent and never severe, the general condition of the subjects of caries sicca remains often quite unchanged.

Whenever suppuration occurs, it is generally owing to the presence of a sequestrum and may be kept up by a small segment of bone retained and inclosed on all sides by impaired osseous tissue.

Volkman reports that caries sicca generally occurs in individuals between fifteen and thirty-five years of age. Its most frequent seat is in the shoulder-joint; the nature of the disease cannot be mistaken; after the patient has complained for some time of a painful sensation in the shoulder following much exertion of the arm, the movements of the joint become restricted, and at a later period entirely arrested. Passive movements, particularly an attempt to rotate the upper arm round its long axis, become very painful. Subsequently there is soon added emaciation of the tissues about the shoulder; the muscles extending from the thorax to the arm atrophy, and the osseous processes become distinctly prominent. The rudiment of the caput humeri is either pulled close against the glenoid cavity, or is luxated inwards towards the coracoid process. The arm is then slightly abducted and seems to be shortened by three-quarters of an inch to an inch. Volkman would attribute to a destruction of the joint by caries sicca, the majority of cases of spontaneous luxations and subluxations of the shoulder, which are frequently explained by a supposed flaccidity of the capsule and a consequent falling of the head of the humerus.

When left to itself, caries sicca according to Volkman's experience, gets well in the course of from one to two years, and results in ankylosis, often fibrous but generally very firm. Close bandages and iodine paint will not bring the morbid process to a standstill; in one case only did the strong tincture of iodine arrest but for a time the progressive destruction. Resection was performed in three cases, and resulted in success. Before the operation the head of the humerus had been dislocated towards the coracoid process, and a new joint had been formed, in spite of constant attempts having been made by suitable bandages to press the head of the bone outwards.

ART. 213.—*Treatment of Fractured Clavicle by a Cross-shaped Splint.*

By G. GREWCOCK, Nottingham.

(*British Medical Journal*, November 7.)

The plan of treating this accident which Mr. Grewcock brings under notice is not entirely new.

The manner in which the single cross-shaped splint is applied is extremely simple. The shoulders, having been well brought back, are fastened to the extremities of the splint by means of a bandage passing under the axilla and over the shoulder, thus effectually overcoming the resistance of the thoracic muscles. A small pad is placed in the axilla, and the bandage, passed over the arm and fastened behind to the splint, keeps the pad in its place.

Mr. Grewcock has treated several cases by this method, and found it give greater ease to the patient than the figure-of-8 bandage, and fulfil perfectly all the indications necessary for the successful treatment of the accident.

(D) CONCERNING THE LOWER EXTREMITY.

ART. 214.—*On Varicose Disease of the Lower Extremities, and its Allied Disorders.—The Subject of the Lettsomian Lectures for 1867.*

By JOHN GAY, F.R.C.S., Surgeon to the Great Northern Hospital; Consulting Surgeon to the Earlswood Idiot Asylum, &c.

With the object in view of expounding these diseases, Mr. Gay undertook to investigate anew the anatomy and physiology of the saphenous system, believing this to be the only course to be pursued in order to that end. In the work before us, the anatomy of the venous system of the lower extremities is given and illustrated, but with plates—or, as Mr. Gay calls them, "diagrams"—having avowedly no pretension to artistic effect. These veins Mr. Gay di-

vides into "three sets, viz., the *superaponeurotic*, or saphenous; the deep, or *subaponeurotic*; and the *intercommunicating*, or those which bring the two former into direct connection with each other by perforating the intervening aponeurosis." With regard to the seeming want of uniformity in the distribution of the saphenous system, Mr. Gay makes the following propositions.

"1st. That there is, in the arrangement of the venous system of the lower limbs, as of other parts, so far as the trunk veins and their principal branches are concerned, a general and constant uniformity of plan or type; and that the deviations from it, in any given instances, are not so considerable as to constitute in any one an exception to it.

"2d. That those *branches* which so far deviate from, as to be altogether irreconcilable with, such typical plan, are supplemental and auxiliary; and will have opened up, in all probability, from inconsiderable vessels in obedience to some especial exigency of the circulation; and

"3d. That the veins which become varicose are not generally of the subordinate character just alluded to, but ordinary and regular branches which have important offices to fulfil, and become diseased through being overtaxed by excess of functional requirements."

The anatomy of the external saphena, as given by Mr. Gay, differs from that ordinarily adopted. He says: "Arrived opposite the junction of the gastrocnemius muscle with its tendon, this vein invariably penetrates the fascia, either by gradually insinuating itself amongst its fibres, or by the provision of a distinct foramen; and from this point to its termination its course is unquestionably *subaponeurotic*, and occasionally even *intra-muscular*. In an instance in which the vein took this course, it was small in its intra-muscular portion, but its size was compensated for by two large veins which passed from it, below the point of its penetrating the muscle, to the internal saphena in the thigh."

As to the valvular endowments of these vessels, Mr. Gay says:—

"The external saphena has an indefinite number of valves—from three to nine as in this vessel. In this instance there was a valve below the orifice of each branch that was visible to the eye.

"This, as well as the internal saphena, but more frequently the former, is occasionally a double vein in some part of its course, with lateral intercommunication.

"The *branches* of the saphena, with exceptions to which I will refer, are destitute of valves. I make this statement after a careful examination of these vessels in a large number of bodies; for it is generally supposed that the contrary is the fact, so that varicosity is rarely brought under clinical notice without a reference to valvular implication, and especially to the so-called reliquæ of degenerate valves."

But the slits in the aponeurosis, by which the perforating vessels pass to the deep veins, are so arranged as to answer the purpose of valves to these vessels; which, as Mr. Gay asserts, accounts for the fact that the first traces of varicosity show themselves at the sites of these fascial apertures.

"The perforating veins, of which I have described the more important, in their course to the deep veins pass through dense structures—fascia and muscle; which present formidable barriers to the return of the blood after it has once passed them in the direction of the current. The foramina in the deep fascia are mere *slits*, of which the edges slightly overlap each other; whilst the passage through muscles at their attachments is often very crooked or zigzag, from the interruption which their aponeurotic elements offer to a direct course. Thus these vessels, as they thread their way from the sub to the super-aponeurotic system, are virtually valved, and, as a consequence, the first traces of varicosity show themselves as varices at the sites of their fascial outlets. Here, too, the dilation of these veins usually ends."

From numerous experiments on the lower animals, a series of injections performed on dead bodies, and observations of the effects of muscular exercise on these veins in persons engaged on the treadmill, Mr. Gay concludes—

"1st. That the saphenous, in part *nutritive*, is in a still greater and more important respect an *appendage*—as a kind of reservoir, with slower moving

currents—to the deep venous system which belongs almosts wholly to that department of the vascular system which may be termed *nutritive*; and thus, as Mr. Nunn observes, acts as a safeguard against the contingency of muscular congestion. *For in the venous system there are, potentially, no retro-grade compensating currents as there are in the arterial.* Hence, in all probability dilatation of the *tegumentary venous radicles* indicates embarrassment of the deep trunk veins; whilst that of the *saphenous branches* points in like manner to obstruction of both superficial and deep trunk veins—of the first directly, of the second indirectly.

"2d. That in reference more particularly to the saphenous system, the dilatation of its vessels cannot be effected actively and solely by any force evolved by the various agencies directly concerned in carrying on the circulation, nor to the alleged disadvantages of the columnar pressure of the blood; but—

"3d. That the relation of the saphenous to the muscular system indicates the source of a force, as well as the means of intensifying it, so far in excess of that which the vein walls can oppose to it, as satisfactorily to account for its production.

"4th. That this result is attained in part—

"(a) Through a contingent disadvantage arising from the fact that the capacity of the saphenous trunks is greatly less than that of the sum of their branches; and for the rest, as I shall hope to make more clear hereafter—

"(b) Through the agency of certain foramina, of which *some—e. g., the saphenous, the femoral ring, and the triceps opening—*regulate the size of the stream at the points where they preside over it, and, in case of overflow, intercept the surplus quantity of blood; whilst others—as the fascial and intramuscular—act as valves or barriers, and oppose its reflux.

"5th. Blood so intercepted finds its way to, and accumulates in, the saphenous system; where its tension expends itself with varying results. The valved and powerful trunks are able to resist an account that would dilate their unvalved and feebler branches."

The general and special pathology of varicose disease, skin induration, and ulcer follows; from which Mr. Gay draws the following general inferences: "That ulceration is not a direct consequence of varicosity, but of other conditions of the venous system with which varicosity is not unfrequently a complication, but without which neither one of the allied skin affections is met with—conditions which involve obstruction of the trunk veins, deep and superficial, either from impediments on the venous side, or incompetency on the arterial, or from both causes combined;" that therefore, "pathologically, the doctrine of the 'varicose ulcer' does not appear to 'hold water';"—that, to reiterate my conclusions, ulceration, when it exists with varicosity but without other complication, is a coincidence and not a consequence of the vein disease; that, when associated with induration and bronzing of the skin, it is the direct result of serious obstruction of the venous trunks, and of this alone, whether associated with varicosity or not. The converse cannot, however, be alleged—viz., that serious embarrassment to the circulation through the trunk veins is invariably followed by these affections of the skin. The anomaly, which does not admit of explanation here, does not, however, invalidate the foregoing conclusions."

As to varicose disease the results of Mr. Gay's observations lead him to the following conclusions—

"1st. That varicose disease of the lower limb includes a variety of morbid phenomena, from its simplest form, in which these are limited to varicosity of a saphenous branch with some change—generally dilatation in the allied portion of the trunk vein—to its more complex, in which they involve as well the veins of the deep or subaponeurotic region.

"2d. That these phenomena indicate as their direct *cause* the expenditure, upon the saphenous as well as the deep venous system, of a powerful force, which differently affects their several orders of vessels, and issues in a compulsory rearrangement of their blood-courses, on an abnormal type.

"3d. That the rearrangement or redistribution of these channels, at first temporary, may, and does often become permanent by corruption of their walls and appendages as well as by the formation of thrombi within them.

"4th. That *asthenic* varicosity is a special disease of certain unvalved branches of the saphenæ which bring into direct communication with each other—either (a) distant portions of the same trunk; (b) the saphenous trunks themselves; or (c) these and the deep trunk veins.

"5th. That varicose disease originates in the branches of the saphenæ, from whence its course is to extend itself to the muscular system of veins.

"6th. That the saphenous trunks are prone to phlebitis; the deep veins to dilatation, with organic changes affecting principally their inner and middle coats; whilst those other and more severe morbid changes which constitute varicosity are limited to those especial communicating branches of the saphenæ which have just been alluded to. As the latter form of disease is irretrievable, its natural 'cure' is only effected by the diseased vein becoming plugged or otherwise obliterated, as the circulation becomes restored to its normal condition so as no longer to require its aid.

"7th. That whilst the formation of clot within the varicose vein is often a salutary act, it is not so to be considered in the deep veins in cases of varicosity. The channels of veins, however, that become thus obstructed may, after a time, be efficiently restored by the organization of the clot.

"8th. The *asthenic* variety differs from the *sthenic*, inasmuch as, while in the latter the disease is usually confined to the main branches, in the former it invades the tributaries to the smallest ramifications. Fatty degeneration of the muscular coat forms, I have reason to believe, its distinctive pathological feature.

"9th. Obstruction, direct or indirect, to the flow of blood through the trunk veins, is the immediate cause of varicose disease."

The pathology of induration and discoloration of skin, so constantly met with in the lower extremities, is given, and finally that of ulcer. In relation to the "pathological genesis" of ulcer, Mr. Gay thinks they are clearly divisible into three species:—

"1. The *simple* ulcer; that in which the morbid processes are limited to the confines of the tissues directly engaged therein; 2, the *venous* ulcer; most frequently with 'bronzing' and induration of the skin; dependent upon obstructive disease of the trunk veins, superficial or deep; and, 3, the *arterial* ulcer, generally without bronzing, but with induration of the tegument, and due to incompetency of the arteries, through disease of their coats. In some cases, however, the morbid changes which characterize the second and third classes are conjoined.

"All of these ulcers are capable of being more or less varied by secondary agencies; and thus subordinate varieties are determined."

The treatment of these several diseases concludes the work. With respect to varicosity Mr. Gay says: "If, then, varicosity is not to be cured, or perhaps even indirectly relieved, by obliterating or otherwise obstructing the diseased vessels or their trunks, what are we to do? What principles of treatment are we to adopt? I answer, 1st, that so long as varicose veins are capable of aiding in circulating the blood, though with comparatively trifling efficiency, we must (a) relieve the general circulation of the limb as far as possible from those causes of embarrassment in which their disease originated; (b) preserve the vessels in that state of usefulness to which they may have been reduced, or render them still more useful by giving artificial support to their deteriorated walls; (c) remedy any contingent disorder of the vein as far as it can be remedied; and (d) adopt such general measures as shall have the effect of indirectly imparting strength to its tissues. And 2d, (a) in the event of any portion of such vein becoming so hopelessly deteriorated that it can no longer aid in furthering the circulation, especially if it be irremediably painful on, or without exercising the limb; or (b) if the vein shall have given way, or appears, from attenuation or other conditions, liable to burst without forewarning: under either of these circumstances the particular segment or entire branch must be obliterated."

In order to obliterate varicose veins, Mr. Gay recommends a mode of operation which he conceives is free from the risk of forming a thrombus within the vessel. The more solid portions of the vein should be chosen for deligation;

ligatures should be placed beneath it at distances of from three-fourths to an inch apart; the blood is then to be poured out of the vessel by elevating the foot, and, if necessary, by placing a bandage on the distal side of the vessel; and the ligatures are then to be tightly tied.

The treatment of ulcers as recommended by Mr. Gay, is as follows:—

"If acutely inflamed, bleeding is required by leeches or scarification across the edge of the ulcer, hot applications, constitutional treatment, purgatives, calomel when the biliary system is deranged, and opiates if the sore is painful. If the inflammation is only subacute, and especially if the tissues be thickened and the edge welted, blisters should be applied over the surface and the affected border. It may safely be alleged that no one remedy is capable of so much general benefit as the blister, for which we are, I believe, indebted to M. Sappey, but mainly to Mr. Syme. Irritability must be subdued by opium, with quinine or iron, and the use of a *strong* solution of nitrate of silver to the surface. If neuralgia exist, the offending nerve-filament must be tracked out and divided, as Mr. Hilton recommends, and appropriate constitutional remedies administered. If there be constitutional weakness, tonics and change of air, with generous diet, are required; and if struma or syphilis, the remedies appropriate to these diseases. If the ulcer persists after the subjugation of secondary states or conditions and a certain period of rest, the *surface* should be destroyed by some powerfully destructive agent. The strong solution of the pernitrate of mercury, twice or thrice applied, and at intervals of two or three days, will seldom fail to induce cicatrization in such a sore.

"With respect to the *venous* ulcer, I know but of one mode of inducing permanent cicatrization—namely, by those incisions at the edges to which I first drew the attention of the profession through the medium of this Society, in 1861.

"The *principle* of treatment involves the destruction of any veins which pass from the margin of the diseased skin tissue, and especially from the ulcer itself; and relief to the tension of the contracted and hardened skin. These two objects are to be carried out at the same time: 1st, by deligation of the larger varicose veins; and 2d, by curved incisions, free and deep, on either side of the ulcer margin.

"The edges of the wound should be kept apart, and the limb maintained most scrupulously, and without intermission, in the posture described when speaking of obliteration of veins.

"The *arterial* ulcer is incurable by any known means of which I am cognizant; and amputation is a resort full of risk, as the ulcer is so commonly associated with remote organic, especially renal, disease. Would ligature or compression of the femoral artery, with the object of closing up the diseased arterial trunks, and of obtaining a renovated arterial system by means of those abundant new branches and their ample anastomosis, which was so striking a feature in the injected case of which I have spoken, be likely to meet the otherwise insuperable difficulty?"

We have thus given an outline of the matters treated of in Mr. Gay's "*Lett-somian Lectures*;" but must refer our readers to the work itself for the details out of which Mr. Gay has gathered his practical conclusions upon the important subjects of which they treat.

ART. 215.—*On the Treatment of Ulcers of the Lower Limbs.*

By JOHN KENT SPENDER, M.B. Lond.

(*Manual on Ulcers, &c.*)

In his "*Manual on Ulcers*," Dr. Spender proposes to treat ulceration of the leg by imitating the natural process of healing by scabbing. An ointment containing a very large quantity of prepared chalk, he writes, forms the best artificial crust. The earthy matter must be in a much greater proportion than enters into any ointment in the "*Pharmacopœia*," consisting of about three pounds of chalk to two pounds of lard. The best way of preparing this application is not by rubbing the chalk down with the lard; but, having previously

reduced the chalk to a very fine powder, melt the lard in any convenient vessel over a slow fire, and then add gradually the chalk to the liquefied lard. This should be stirred and thoroughly mixed until nearly cold, and it is then ready for use. A much more homogeneous compound is thus obtained than could possibly be procured by simple admixture or trituration, the materials are more intimately blended together.

The following advantages are said to accrue from the use of this ointment.

(a) It very rarely produces pain, and generally much ease and comfort. The great predominance of alkali prevents the lard from becoming rancid, and so producing irritation.

(b) When the lard becomes melted by the heat of the part, and absorbed by the bandage, the chalk is disengaged, and a portion of it combines with the secretion from the ulcer. This secretion is often extremely acrid, and excoriates the neighboring skin; but when united with the chalk it is converted into a neutral innoxious compound.

(c) This compound constitutes the incrustation which is formed, first on the surrounding skin, then on the margins, and finally on the surface of the ulcer. This incrustation is necessarily produced in a very gradual manner. It is only when the secretion has considerably diminished in quantity that a layer is deposited on the centre of the ulcer; but the covering which is provided on the edges protects them completely from irritation.

(d) Little disturbance of the applications is necessary. At first the quantity of discharge may require the frequent removal of the dressings; but in a little while this will be wholly unneeded, and our object should be to maintain the mechanical integrity of the chalky incrustation. All fomentation of the ulcer is obviously highly prejudicial.

The next object to be kept in view is to support the veins and other structures below the ulcer, and to introduce a healthy action, which may be done by a *powerful and well-adjusted compression of the whole limb*. This, when properly applied, the author says, approximates the structures to their natural form and function, and thus introduces the healthy action required.

ART. 216.—Respecting the Treatment of Fractures of the Lower Extremities in the Wards under the care of Mr. Pagel.

By J. ASTLEY BLOXAM.

(*St. Bartholomew's Hospital Reports*, vol. iii., and *British and Foreign Medico-Chirurgical Review*, October.)

Before describing the new forms of apparatus employed at St. Bartholomew's in the treatment of fractures of the lower extremities, Mr. Bloxam alludes to the circumstance that no apparatus is now employed in fractures of the femur in children and in fractures of the patella. It is found that splints, bandages, and other such applications, are attended with great inconvenience in young children, and that the fractures may be safely treated by rest and the maintenance of a suitable position of the limb. Fractures of the patella are also treated without any apparatus, the patient being confined to bed with the injured limb extended on a level, with sandbags placed on each side, and with a cradle to keep off the weight of bed-clothes from the limb. In a few days from the time of the accident, the extensors cease to act, and the fragments approximate themselves, the union, however, being usually ligamentous. The description of the apparatus employed in the treatment of other fractures of the lower extremities is illustrated by diagrams, without the aid of which a description would be impossible. It should be mentioned, however, that in fractures of the thigh, the inconveniences of the long splint are obviated by some novel contrivances and that the new apparatus employed in these cases is both useful and convenient.

ART. 217.—*Pelikan's Modification of Pirogoff's Tibia-tarsal Operation.*

(*Gazette Médicale*, August 29; and *British and Foreign Med.-Chir. Review*, October.)

Professor Heyfelder states that he has had ample opportunity of confirming the good opinion he had formed of this operation in his own cases in Finland and St. Petersburg, by the experience derived from the Prusso-Austrian war of 1866. The procedure consists in making a curved incision, which, commencing above the posterior edge of the internal and external malleolus, passes along the dorsal surface of the foot, and terminates at the other malleolus. After this incision, which divides only the skin, and the preliminary separation of the incised parts, the subjacent tissues are completely cut through down to the bone and the epiphyses of the two bones of the leg are removed by the saw. The soft parts covering the os calcis are next divided, and the bone sawn in the same direction. The sawn surfaces of the bones of the leg and of the os calcis are easily brought in contact, which is impossible by the unmodified procedure, even after section of the tendo Achillis.

ART. 218.—*A Case of Popliteal Aneurism successfully Treated by Flexion.*

By T. HOLMES, M.A., Surgeon to St. George's Hospital.

(*British Medical Journal*, June 13.)

Mr. Holmes communicates the following case as an example of popliteal aneurism, apparently cured without the slightest danger to the patient and without any suffering whatever.

S. D., aged forty-five, a laborer, was admitted into St. George's Hospital, on April 27th, 1868, on account of aneurism in the left ham. The history given was that six weeks previously, when lifting a heavy weight, he slipped, and his heel went into a hole in the ground. In recovering himself he gave the limb a severe twist; but he did not feel any pain till about a fortnight before admission, when he became sensible of constant pricking pain in the ham.

On admission, a small aneurism was found. The *bruit* was very distinct. There seemed no solid in the sac, for the tumor almost entirely disappeared after compression of the femoral artery. The pulsation was not very violent. The man seemed in good health and spirits. He was left quiet in bed for two days; the bowels were cleared out; and he was allowed ordinary diet. On April 30th, at 3 P.M., the flexion treatment was commenced, on the plan first suggested by Mr. Ernest Hart. The pulsation was decidedly weaker than on admission; it was greatly checked by forced extension of the limb, and was completely stopped, as far as could be ascertained, by extreme flexion. The leg was bent on the thigh as far as possible, and fixed in that position by bandages, a leather collar being put round the thigh, and another round the leg, and the two attached by a few turns of the bandage. The thigh was bent, and the limb laid on a cushion. The patient slept tolerably that night, but complained of a good deal of shooting pain. However, there was no intolerable inconvenience from the position. The bandages were readjusted, and the pulsation found to have diminished considerably. Next day, May 2d, the *bruit* was not perceptible nor the pulsation, and the aneurism was, in fact, cured; but the flexion, as it really gave the patient no inconvenience, was continued for another day, when it was finally removed (2 P.M., May 3d). The patient was kept in the house under observation for ten days more, during which time the tumor, now perfectly consolidated, continued to diminish to size. When he was discharged (May 13th), there was a little lump in the ham, much resembling a chestnut in size and feeling.

ART. 219.—Popliteal Aneurism: Cure by Pressure in Twenty-Eight Hours.

Under the care of Sir HENRY THOMPSON.

(*British Medical Journal*, July 4.)

The patient, J. D., aged fifty-nine, a laborer, was admitted into University College Hospital on April 16th, with an oval tumor, about the size of a small orange, in the popliteal space, painless, smooth, non-adherent to the skin, and distinctly circumscribed. As the tumor was small, it was thought expedient first to adopt the treatment by flexion. Accordingly, on the following day the limb was bandaged, gently flexed upon the thigh, and retained in that position by additional bandages. The flexion caused no pain. The limb was kept in this position four days, until 2 P.M. on the 21st, by which time no difference in the pulsation was perceptible. Mr. Ernest Hart saw the case, and flexed it more completely. The limb, however, was set free on the 23d, as the knee had become swollen and painful. On the following morning at eleven o'clock, the leg having been previously bandaged with stocking elastic, a Carte's compressor was applied over the femoral artery just opposite Poupart's ligament, and another one about four or five inches lower down. The patient himself, a very intelligent man, changed the compressor about every three-quarters of an hour, and felt little discomfort from its application. *By half-past three on the following day, twenty-eight hours after the first application of the compressor, all pulsation in the tumor had ceased.*

The patient from this time had no bad symptoms; he slept and took his food well. The compressors, which had been kept on at half pressure since the pulsation ceased, were loosened altogether on the 28th, although not taken off the limb; and the bandages partly undone. He was able gradually to straighten his leg. The tumor gradually diminished, and left merely a small hard tumor. He got up for the first time on May 9th, but was unable to put his foot to the ground; and slight cedema resulted on the following day, which, however, gradually diminished. He was speedily able to walk, at first with the assistance of crutches; and left the hospital on the 8th, perfectly well.

ART. 220.—Aneurism of the Popliteal Artery Cured by Compression.

By W. G. JOHNSON.

(*British Medical Journal*, July 4.)

Samuel R., a healthy-looking man, aged twenty-seven, employed in the marine service, was compelled to leave it two years ago, on account of an aneurism of the right popliteal artery. He was sent to Haslar Hospital, where continued pressure by the finger was kept up for five weeks; but as this pressure seem to have been performed by the nurses, it would appear doubtful whether it had a fair trial. It did not, however, succeed; and a tourniquet was then applied, which became unbearable at the end of twenty-four hours, and had to be discontinued. The femoral artery was then tied in the middle of the thigh, and he left the hospital cured. His employment at gun-drill necessitated a constant bending of the knee. His next employment was in draining and digging, which likewise compelled the legs to be bent.

He was admitted into the Bedford General Infirmary on July 27th last, with a popliteal aneurism of the left side. The tumor was about the size of a small hen's egg. Two tourniquets were applied to the thigh—one immediately below Poupart's ligament; the other at the middle of the thigh. Pressure was made by both, but one always exerted a much firmer pressure than the other; and, as soon as the pressure became uncomfortable, one tourniquet was relaxed, and the other tightened. In this way he went on, alternating the pressure of the tourniquets (keeping the surface underneath them sprinkled with starch), for

eighteen weeks. Pressure was then gradually taken off, and the tourniquets removed. Pulsation had entirely ceased. There was, however, a slight return of pulsation at the end of three weeks, which rendered it necessary to apply a single tourniquet for three more weeks, at the end of which time it had again ceased. He was kept in the hospital two more weeks, and discharged cured in January last. I saw him again a few days ago, and examined his leg. It appeared to be cured, a small solid mass occupying the place of the former pulsating tumor. He has been employed in bricklaying for the last three months.

ART. 221.—Treatment of Rupture of the Ligamentum Patellæ.

By M. SISTACH.

(*Edinburgh Medical Journal*, August, 1868.)

We extract the following practical conclusions from a work by M. Sistach on the above subject:—

1. As far as treatment is concerned, rupture of the ligamentum patellæ, transverse fracture of the patella, and rupture of the tendon of the quadriceps extensor, seem by most surgeons to be regarded as the same accident.

2. Position and immobility for a sufficient length of time are quite sufficient to effect a good cure, without any use of the compressive bandages and apparatus so generally used, which are liable to do harm rather than good, preventing the nutrition of the limb, and specially the formation of the new material which is to unite the divided ends of the tendon, causing atrophy of the limb and local scurvy.

ART. 222.—On the Treatment of Fracture of the Patella complicated by Opening of the Knee-Joint.

By Dr. GEORGES BOUCHARD.

(*Des Fractures de la Rotule, &c.* Paris, Lefrançois. 1868. pp. 82.)

1. These complicated fractures are quite analogous in their symptoms and progress to penetrating wounds of the knee.

2. Whenever a similar lesion is presented to the surgeon, the first indication for him to fulfil will be to endeavor to bring about an osseous reunion of the fragments of patella.

3. The osseous reunion ought to be established in order to avoid an adhesion of the fibrous tissue of the patella to the cicatricial tissue of the skin, as this condition might, with the least exaggerated movement of the patient, produce rupture of the fibrous and cicatricial tissue, and consequently an opening into the knee.

4. In order to facilitate the discharge of pus it would be necessary to open the joint at one or both sides of the knee.

5. A drainage tube should be passed through the sub-crural synovial sac in order to avoid ulceration of this part and purulent effusion between the muscles of the thigh.

6. This drainage tube may be replaced by a roller applied above the knee so as to produce compression of the synovial cul-de-sac.

7. The surgeon should employ constant irrigations and injections of spirit and water.

8. If in spite of this treatment complications should come on which might place the life of the patient in danger, amputation of the limb must be performed without hesitation.

9. If the patella has been comminuted it will be necessary to extract the loose fragments or to perform partial or total ablation of the patella, according to the indications furnished by the lesion.

ART. 223.—*Case of Compound and Comminuted Fracture of Patella, laying open the Cavity of the Right Knee-Joint, in which the Limb has been saved, with almost Perfect Use of the Joint.*

By JOHN MADDEN, M.B.T.C.D., F.R.C.S., Surgeon-Major 2d Battalion 8th Regiment.

(*Medical Times and Gazette*, October 10.)

Dr. Madden lays before the profession the following very interesting and instructive case of conservative surgery:—

"P. D. R., aged thirty years, an Irishman, by trade a tailor, total service nine years, all in the Mediterranean, brought to hospital at half-past one o'clock P. M., on July 26th, 1867, by the civil police, who found him lying in the ditch opposite the Auberge di Bavaria. When admitted he was in a state of intoxication, and it was found that he had sustained a compound and comminuted fracture of right patella, laying open the knee-joint, and also a severe lacerated and contused wound of the integuments covering the lower part of os frontis, and left ala of the nose was split by direct violence, as, when running away from the picket, he leaped over the bastion opposite the Auberge di Bavaria to effect his escape, sustaining a fall of about forty feet. I saw him in half an hour after his admission to hospital, and found him in a state of great excitement from drink. When placed in bed, it was found that the right patella was fractured perpendicularly into several small pieces; the knee-joint was laid open from condyle to condyle of the femur. It was impossible to bring the lips of the wound together, as he kept violently and forcibly flexing the joint, and each time he did so the crucial ligaments were brought into view. He was seen by all the medical officers in the General Hospital, Valetta, who strongly advised immediate amputation, considering the saving of the limb hopeless, and that there would be less shock to his system by performing primary amputation. Although he had received such a fearful injury, I determined to give him the chance of saving the limb. With this view he was restrained by the united power of relays of three men until the excitement from drink passed off; the limb was forcibly extended and placed loose in a fracture-box, the lips of the wound were drawn together by four points of suture, and a compress of lint dipped in the blood from the orifice of the wound was placed over it.

"On the following day violent reaction was established, and considerable oozing of blood mixed with synovial fluid took place from each angle of the wound; the joint was also enormously tumefied. The limb was retained in the fracture-box, and ice in a bladder suspended from the central ring of a cradle, so as to take off its weight, was kept constantly applied to the joint. The next day he had several rigors, and a discharge of blood, synovia, and pus took place from the angles of the wound, accompanied with dusky redness of the surrounding integuments. On July 30 the oozing of blood and pus ceased, the tumefaction abated, as also the discoloration, and the lips of the wound had united except at its angles; the points of suture were removed, and ice in a bladder, as before, and poultices, were alternately applied to the joint. He continued uninterruptedly to improve, and almost free from any constitutional disturbance; the external angle at the end of six weeks united; the internal one remained open until a month ago, discharging an oily fluid very much resembling synovia, from which several pieces of dead bone, portions of the fractured patella, have exfoliated. All the openings are now perfectly healed. The patient's general health is very good. He daily takes walking exercise in the open air without the trifling aid of a stick, and the power of flexing the joint is almost as good as in the normal state; and I have no doubt, in process of time, when the exuberant formation of callus, thrown out in the union of the several broken pieces of the patella is absorbed, it will be as perfect as before the injury."

ART. 224.—*On Resection of the Knee for Injury.*

By E. M. SPILLMANN.

(Archives Générales de Médecine.)

In this memoir a number of clinical reports relating to resection of the knee for traumatic lesions of this joint are collected together for the purpose of supporting the following propositions:—

1. That conservative surgery cannot summon in its support resection of the knee in the casualties attending a campaign.

2. That this operation, on the other hand, when applied for wounds occurring frequently in civil life, is a more justifiable and hopeful proceeding.

M. Spillmann gives statistics of resections of the knee performed for injuries caused in warfare, and also tables of resections performed for the lesions of civil life.

Statistics during war.—In the war of the Duchies in 1848 and 1849, there was one case of resection of the knee for gunshot injury, the termination of which was fatal one month after the operation. In the Crimea there was one fatal case in the English army. In the American war, there were ten cases, 8 of which were fatal, and 2 perfectly successful. In the Schleswig-Holstein campaign of 1866, there were 7 cases, of which 6 were fatal. The whole number of reported cases is 19, with 16 deaths and 3 recoveries.

M. Spillmann attributes the fatality of resection in cases of gunshot wound to the conditions under which the wounded are placed, and the extensive contusion and injury of the femur resulting in osteomyelitis.

Statistics of resection performed for wounds of the knee-joint in civil practice.—Thirteen reported cases are given of severe injuries to the knee from pistol balls and small shot, incised wounds, falls, blows, and in one instance from a deep burn. These cases were all treated by resection, with recovery in ten instances, and death in the remaining three. Out of the ten recoveries there are two instances in which amputation was subsequently resorted to with success. In two instances resection was performed fifteen days after the injury, in one instance three weeks after, in one instance a month after, in one instance five days after; and in one instance also three weeks after the fall of an eschar, which left the joint exposed. In eight out of the ten successful cases, resection was practised at a period at which amputation of the thigh, when applied for lesions of the knee, is nearly always fatal.

ART. 225.—*Excision of the Knee-Joint Eight Years after the Operation.*

By THOMAS SMITH, F.R.C.S., Assistant-Surgeon to St. Bartholomew's Hospital.

(Transactions of the Clinical Society, vol. i.)

At a meeting of the Clinical Society of London, held February 28th, Mr. Thomas Smith showed a patient, seventeen years of age, whose knee-joint he had resected eight years ago. At the time of the operation, the patient was nine years of age, and had suffered from disease of the knee-joint for three years. About an inch of the end of the femur was removed, a thin slice was taken off the tibia, the patella was taken away, and the hamstrings were divided. The epiphysal cartilage of the femur was injured to a small extent.

A photograph taken five months after the operation showed a well-formed and almost straight limb, which was thoroughly strong and useful—a firm bony union existing at the knee. The boy was more active, and a better runner than most of his age, though the limb was shortened to the extent of two inches. He remained strong and active, his limb being straight and thoroughly efficient until three years ago, when he began to learn carpentering; very soon after this, from standing a great deal on the left leg, the resected knee began to give

way, the limb being as if affected with genu valgum. After giving up carpentering, he worked on a farm for a year; this injured his leg still more. He has now (February, 1868) given up his work two months, and since then the distortion has remained in *statu quo*. He can walk four or five miles, can run and can jump, though the limb is considerably bowed inwards at the knee. The left limb is five inches shorter than the right, the loss in length being somewhat due to the bending of the limb; when measured over the knee the shortening is reduced to three and a half inches.

The case was brought forward to show the effect of the operation of resection in growing bones. During the eight years that had elapsed since the operation, the sound limb had outgrown the resected one by one and a-half inch. Thus the diminution in the power of growth had been small—indeed smaller than might have been expected, considering that the epiphysal cartilage was injured to some extent at the time of the operation.

The result of the case supported a statement made by Mr. Smith in 1857, that provided the epiphysal cartilages were uninjured by the operation, the growth of the limb would in all probability be unchecked.

ART. 226.—*The Results in Thirty-Nine Cases of Excision of the Knee.*¹

By Professor HUMPHRY.

Medical Times and Gazette, November 21, 1868.)

This paper was a supplement to one published by the author in the *Medico-Chirurgical Transactions*, vol. xli., in which thirteen of the cases are related. Most of the remarks in that paper have been corroborated by his subsequent experience. The cases were all treated in Addenbrooke's Hospital. Twenty-eight recovered, gaining firm, sound, and useful limbs; two died, one from an attack of hæmatemesis, which seemed to have no particular relation to the operation; nine underwent amputation, of whom five recovered and four died. The operation was, in most instances, performed on account of synovial disease with ulceration of the cartilages and the bones, destroying the joint so as to leave no hope of its recovery to usefulness. In some it was performed for the purpose of removing a crippled useless joint from which the disease had subsided. The clean cut surfaces of the tibia and femur, if placed in good apposition and kept at rest, were commonly found to unite quickly and form a firm basis of support, so that the patient was able to walk, run, and work well; and there has been no liability to return of disease at the part in any of the cases. The limb should be kept straight; but even in the instances in which it became bent it was still very strong and useful. In the young subject, if the epiphysal, or growing lines of the femur and tibia are left uninjured, the limb may keep pace in growth with the other limb, and generally does so, or nearly. In the cases in which the operation did not succeed, the failure was generally due to continued suppuration in scrofulous or unhealthy persons. Professor Humphry makes a single external semilunar incision across, beneath the patella, is careful to remove all the diseased bone, and to leave the cut surfaces of the tibia and femur in good apposition, having taken pains to secure the bloodvessels by torsion. He pays great attention to the adjustment of the limb, in the first instance, with splints and bandages so arranged as to leave the line of incision exposed, and is very unwilling to disturb the parts afterwards. He not unfrequently allows an interval of five, six, or more weeks to elapse before he removes any of the bandages, thus securing primary union throughout the wound, or great part of it, in several instances. He does not allow the patient to leave the bed till firm union of the bones has taken place.

¹ Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, held November 10.

ART. 227.—On the Removal of Foreign Bodies from the Knee-Joint by means of Direct Incision.

By Dr. HUGO MAX BENNDORF.

(*Inaugural Dissertation.* Leipzig. *Schmidt's Jahrbücher*, No. 9, 1868.)

The radical operation for the removal of a large floating body from the knee-joint may be performed according to one of two methods—the direct or the subcutaneous.

The surgeon, before undertaking the operation, has in the first place to decide whether the annoyance to the patient is great enough to justify so important a step; also whether a perfect recovery is to be expected after the operation; and finally, whether the operation can be performed with necessary safety and facility.

The foreign body should be free and isolated, and the general system capable of withstanding the effects of the surgical proceeding. With regard to the two radical methods, the direct operation is considerably simpler and more easy of performance, but on the other hand it entails a greater mortality than the subcutaneous plan. This latter method has the great disadvantage that the operation in many instances cannot be completed, either because the foreign body cannot be removed from the capsule, or because it slips back again and cannot be found a second time. The advantage of the subcutaneous method consists in the fact that no penetrating wound of the joint is made; this objection to the direct method can, however, be considerably lessened. The patient must be ordered to keep at rest for several days before the operation; the suture must be carefully applied, and rest and antiphlogistic treatment insisted upon in order to promote, if possible, union by first intention. Fock and Simon have recently brought the direct method again into a prominent position.

Dr. Benndorf has collected 223 cases in which the direct method had been carried out. The result of 5 of these remains unknown, and in 2 the operation was not completed. Of the remaining 216 there were 143 in which cure followed without bad symptoms, 32 attended with bad symptoms, and 4 which ended in death.

Fifty cases were collected by Benndorf in which the subcutaneous operation had been performed. In 28 of these cure resulted without bad symptoms; bad symptoms occurred in 5 cases, and death in 5; in 12 cases the operation was not completed.

From these records was obtained the following:—

	A. Direct Incision.	B. Subcutaneous Incision.
Cure	81 per cent.	66 per cent.
Fatal issue	19 per cent.	10 per cent.
Operation unfinished	0.9 per cent.	24 per cent.

Dr. Benndorf hence draws the conclusion that the subcutaneous method would, on account of its small mortality, be preferred, were it not for the fact already mentioned, that it must often remain unfinished. In other respects the direct method, with caution in prophylaxis, in the performance, and in the after-treatment, may be rendered equal in worth to that of the subcutaneous operation.

The following cases occurred in the hospital practice of Prof. B. Schmidt:—

CASE 1.—A soldier, twenty-two years of age, ten weeks before his admission injured himself in leaping from a vaulting-board. He was immediately attacked with severe pain in the left knee-joint, and at once led off by his comrades to a remote lazaret. On examination Professor Schmidt found that the left knee was much swollen; there was no pain whilst the limb was in the extended position, but attempts at movement caused immediate suffering; a floating body could be felt; this was generally seated at the upper margin of the patella, but could be moved away by the patient towards the inner and lower part of the joint. After the affected extremity had been placed on a splint for five days, and a bandage had been applied, Professor Schmidt pressed the body towards

the inner and lower part of the capsule, and then made over it an incision about one inch and a quarter in length. An incision about one inch in extent was made in the capsule, and through this the body slipped out after the application of slight pressure. The external edges of the wound were pressed together by the finger and united by three button sutures. The limb was immediately confined and covered by an ice bladder. No bad symptoms followed; the temperature after the operation never exceeded 30.4° R. At the end of six days the wound was healed; after seventeen days movements in bed were permitted, and on the thirty-second day the patient left the hospital *perfectly cured*. Chloroform was not administered during the operation.

The removed body was shaped like the heart on playing cards; it measured eleven lines and a half in length, nine lines in breadth, and two lines and a half in thickness. Its color was bluish white, marked with yellowish patches, like that of hyaline cartilage. This coloration affected the convex surface, which presented under the microscope the tissue of hyaline cartilage, whilst the concave surface was found to be much firmer and like a layer of bone.

CASE 2.—A woman, thirty-eight years of age, had been treated for a long time for hydrarthrosis of the left knee, when the joint was finally punctured. After this a floating body was discovered in the joint. As no diminution of the inflammatory joint symptoms could well be expected before the removal of the foreign body, an operation was proposed to the patient, and then performed by Professor Schmidt, in the same manner as that in the former case. The woman was not put under the influence of chloroform. No bad symptoms followed, and the temperature was never higher than 30.2° R. At the end of three months the woman had recovered so far that she was able, with the limb fixed in a bandage, to go about well and without pain.

The body measured thirteen lines and a half in length, eight lines and three-quarters in breadth, three lines and a half in thickness, and consisted wholly of hyaline cartilage.

With regard to the origin of these bodies, Dr. Benndorf holds that they only exceptionally, and in very rare instances, proceed from any other cause than a previous or still existing inflammation. The first case he considers to be one of a new formation, arising from the joint tufts of the synovial membrane, and originally stalked, which at first caused no trouble, but afterwards became detached from its pedicle, and on the occasion of the injury slipped between the ends of the joint.

ART. 228.—*Dislocation of the Hip-Joint reduced by making the Femur a Lever acting upon a Fulcrum placed in the Groin.*

By GEORGE SUTTON, M. D.

(*American Journal of the Medical Sciences*, October.)

Dr. George Sutton, of Aurora, Ind., relates (*Western Jour. Med. and Surg.*, Sept. 1868) a case of this in a strong healthy boy, eight years of age, whose clothes being caught in some machinery, he was thrown over with great violence. On examination, Dr. S. at once detected dislocation of the right hip-joint. The limb was shortened, toes inverted, and the head of the femur could be distinctly felt resting high on the dorsum of the ilium. Dr. S. at once attempted reduction by Reed's plan, but not succeeding immediately in getting the bone over the rim of the acetabulum, he placed a roll of cloth of the proper size in the groin, partly resting against the anterior portion of the ilium. "This was held firmly in its proper place, while the limb was gently flexed upon the abdomen over the support which acted as a fulcrum; this raised the head of the femur and prevented it from rolling from the desired position, and by gently moving the limb outwards, and at the same time raising the leg, when I had it in the desired position, I had the pleasure to hear the bone glide into the socket with the noise usually heard at the time when dislocations of the femur are reduced. All motion of the joint was now free and unattended with pain, and the boy declared that he was well. The usual after-treatment was resorted to, and in five weeks he had entirely recovered, and was walking without the least lameness."

ART. 229.—Dislocation of the Hip of Seven Months; Attempt at Reduction; Fatal Result.

(*The Lancet*, August 15.)

A man, twenty-nine years old, was received at the Pitié Hospital of Paris, on the 13th of May last, in the condition above stated. M. Broca attempted to reduce it, using a force of 489 lbs. No reduction was obtained, and the patient insisted upon leaving the hospital five days afterwards. A fortnight then elapsed, when he presented himself at another hospital, with the hip enormously swollen, and died the next day of peritonitis. The autopsy showed that the head lay in the ischiatic notch, that it was held firmly by bundles of the torn capsule, and that the cotyloid cavity was much shrunk. Pus was found in the capsule, in the iliac fossa, in the articular cavities, and had found its way into the peritoneum, through the obturator foramen.

ART. 230.—Reduction of Dislocation of the Femur.

By M. DOLBEAU.

(*Medical Times and Gazette*, October 31.)

At the Academy of Medicine, M. Dolbeau, who is a candidate for the vacant seat in the section of Surgical Pathology, read a paper upon the reduction of dislocation of the femur by combined flexion and rotation, or, as he terms it, Desprès' method. He says that Pouteau, in the last century, first conceived the idea of reducing this dislocation without employing force, recommending flexion and modern traction, at the very time when Petit was inventing his powerful traction machine. The gentler method has been subsequently recognized as the preferable one by various practitioners; but it is to Desprès, in 1835, that is due the honor of combining into a method Pouteau's plan of flexion with rotation of the limb outwards. During ten years M. Dolbeau has had occasion to resort to this plan eleven times, eight of these being ilio-ischiatic, two ilio-pubic, and one ischio-pubic dislocations. They have all been easily reduced by himself alone without assistants, all the patients having been first submitted to chloroform. His experience, therefore, leads him to conclude—1. That all recent dislocations of the thigh may be easily reduced by Desprès' method. 2. This may succeed even when force has been employed in vain. M. Dolbeau gives a case of a dislocation of fifty-five days' standing, which he reduced after several attempts with the pulleys had been made in vain. 3. The flexion of the thigh, combined with external rotation, permits the head to be disengaged from all the obstacles retaining it, causing it at the same time to traverse the various points of all the circumference of the cotyloid cavity, until it is brought in relation with the rent in the capsule, through which alone it can gain readmission. 4. Always, before having recourse to force, Desprès' procedure should be tried. M. Dolbeau says he professes nothing new, but only recalls attention to a simple manœuvre in every one's power to execute, and the value of which has become doubled since the discovery of chloroform.

ART. 231.—Two Cases of Excision of the Hip.

Under the care of Mr. PICK, of the Belgrave Hospital for Children.

(*The Lancet*, November 14.)

Excision of the hip is an operation respecting the value of which very considerable difference of opinion exists; but in the two following cases there can be little doubt that it was the proper course to pursue, inasmuch as the limb was entirely useless, and there was a progressive deterioration of the general health, and at the same time, as far as could be ascertained, an entire absence of all visceral mischief. Moreover, in consequence of the advanced state of the disease, there was little probability of a spontaneous cure taking place; and even if this were likely to ensue, the limb would have been a less useful

one, on account of the dislocation, than was obtained by removing the head of the bone.

CASE 1.—Maude B—, aged eleven, was admitted into the Belgrave Hospital for Children on August 1st, 1867. The history was that she had always enjoyed good health until six years previous to admission, when, after an attack of scarlet fever, she began to develop all the usual symptoms of hip disease. The disease was, however, very chronic, and she continued under treatment, at intervals, until two years ago, when abscesses formed, which have continued to discharge. Since the formation of matter, her general health has gradually deteriorated. On admission she was found to be a strumous child, with fresh complexion and thin hair. Attempts to semiflex and rotate inwards the left thigh caused intense pain. There was about an inch and a half of shortening, and evidently displacement of the head of the bone, for it was found that the trochanter lay almost entirely above a line drawn from the anterior superior spine of the ilium to the lower border of the tuberosity of the ischium. Upon rotating the bones upon each other, under the influence of chloroform, distinct crepitus could be detected. In front of the joint, about the position of the insertion of the psoas muscle, were two sinuses, which led down to exposed and softened bone. There was no cough, and the chest sounds were healthy.

On August 12th, the patient having been placed under the influence of chloroform, a single long incision was made just behind the great trochanter, and the head of the bone freed from its attachments with the point of the knife. In doing this a large abscess was opened, and a quantity of matter escaped. The bone was now divided by means of a saw just below the trochanter. The wound was brought together with a single suture, and the limb put up on a long interrupted splint. The head of the bone, on being examined, was found entirely separated from the shaft, and was the size of a marble, much softened and carious. The trochanter was also much diseased. The acetabulum was apparently healthy.

After the operation the girl went on well. On the sixth day the splint was removed, and the limb simply placed between two sand-bags, with a weight attached to the foot.

On August 26th the wound was quite clean and healthy, and beginning to fill up rapidly from the bottom. One of the sinuses healed at the end of six weeks, and at the end of eight weeks there was some amount of union, and she was allowed to get up. Her recovery was somewhat retarded by a little piece of dead bone in the other sinus, which was, however, eventually got rid of. When she was discharged, on Dec. 9th, there was about one inch of shortening, the limb was in good condition, and she could bear the weight of the body upon it.

She was seen on Sept. 4th, 1868, when she was found to have gained flesh and grown considerably. She could walk a couple of miles without any support. There was exactly one inch of shortening; there was firm union and perfect motion in every direction. The limb, which previously had been much wasted, was now nearly as plump and firm as the opposite one.

CASE 2.—Henry H—, aged five, was admitted March 19, 1868. His mother stated that two years ago he fell down while running, and from that time was noticed to constantly limp. He then complained of pain in his left knee, followed in a few months by pain in the hip and down the thigh. Fifteen months before admission an abscess formed; this was opened, and had been discharging ever since. About the same time that matter formed, the right knee became "enlarged and stiff," and the leg flexed on the thigh; so that from that time he has been unable to walk at all.

On admission he was found to be a scrofulous-looking boy, but fairly nourished. The left hip-joint presented the characteristic appearances of advanced morbus coxæ; the thigh was flexed on the pelvis, and fixed in that position; there was extreme wasting of the muscles of the buttock, and the head of the bone could be felt to be displaced, and lying on the dorsum of the ilium. The thigh was shortened to the extent of an inch. On its outer side were two sinuses, running upwards in the direction of the joint, and leading down to carious bone. The ends of the tibia and femur on the right side were much

enlarged. The knee was semiflexed, and ankylosed in this position. There was no cough, and the chest sounds were natural. The urine was healthy, and contained no albumen.

On the 16th of April excision was performed in the ordinary manner by the longitudinal incision behind the trochanter. The head was found resting on the dorsum of the ilium, much diseased, the cartilages having vanished, and the bone being eroded and softened. The acetabulum was also much diseased, and a piece of bone, the size of a hazelnut, was lying loose in the cavity. The limb was put up on an interrupted long splint.

The boy went on well after the operation, and the wound soon began to heal. On the 20th of May both the original sinuses were closed, and the wound was quite healthy. The splint was now removed, and extension made by a weight and pulley, the limb being supported by sand-bags. In the beginning of July the wound was all healed, except a minute sinus, which discharged a little thin sero-purulent fluid. He was allowed to get up, having been fitted with a leather splint. He was discharged on the 3d of August, and sent home again into the country. There was then about an inch of shortening. The ends of the bones were firmly united, and there was free movement in every direction. He could walk on the left leg with the help of two crutches. In consequence of the disease in the left knee he was unable to put this limb to the ground.

ART. 232.—*On Amputation of the Thigh by Separation of the Lower Epiphysis.*

By GEORGE BUCHANAN, A.M., M.D., Surgeon to Glasgow Royal Infirmary, Professor of Anatomy in Anderson's University.

(*The Lancet*, October 31.)

In cases of injury or disease demanding amputation in the lower part of the thigh, the operation known as "Carden's" is generally admitted to give the best results, both as regards safety and the shape of the stump. Dr. Buchanan's own experience, especially during the past two years, in which he has operated many times, is decidedly in favor of that method when practicable.

But he desires to call attention to a method of dividing the bone in patients under puberty, which he has practised most successfully in two cases, and which he intends to adopt in all similar instances.

"CASE 1.—A boy, aged ten, had his leg crushed by machinery close up to the knee. I performed amputation by a long anterior flap. After I had cut through the soft parts, I drew the knife round the condyles to divide the periosteum, where I meant to apply the saw, when I found that it passed in to the soft cartilage separating the inferior epiphysis from the shaft of the femur. I laid aside the knife, and by using gentle force easily broke off the epiphysis, leaving the shaft with a rounded end, in which neither cancelli nor medullary cavity were exposed. The wound healed with great rapidity, and it was the most perfect stump I ever saw.

"CASE 2.—A boy, aged twelve, was admitted under my care in May, 1868, with disease of the knee-joint. Treatment failed to arrest its progress, and in the beginning of October there was evidence of degeneration of the cartilages. Amputation was imperative. The operation was performed in the same way as in the last case; this time the separation of the epiphysis being kept in view from the first. A large anterior flap was formed by entering the knife at the condyle, extending a straight incision about three inches perpendicularly downwards; then making a semilunar sweep in front of the tubercle of the tibia, and carrying the knife in a straight line to the condyle opposite the point of entrance. A semilunar posterior flap half the size was then made. The knife was then drawn round the cartilaginous interval between the shaft and the epiphysis, and sunk into it a short way. By now pressing my thumb-nail into the groove thus made, I had no difficulty in breaking off the lower epiphysis, leaving the shaft of the femur with a rounded end, in which neither cancelli nor medullary cavity were exposed. The femoral artery was effectually secured by torsion, as also three small vessels. The edges of the wound were brought together by silver sutures."

The patient was placed in bed, with the stump resting on a pillow, no dressing of any kind being applied, as is my usual practice in managing such cases. The stump promises to be as perfect as in the last case."

Three advantages seem to Dr. Buchanan to attach to this plan, which is applicable to all cases of amputation of the thigh in patients under puberty.

1st. The shape of the end of the bone renders the stump exceedingly favorable for the adjustment of an artificial leg.

2d. The end of the bone, being rounded, nodular, and smooth, needs little if any alteration by reparative processes during the cure.

3d. The risk of purulent absorption and pyæmia, which always attends the exposure of the cavity of a bone, whether cancellated or medullary, is in this form of amputation absent, so far as the bone is concerned.

ART. 233.—Luxation of the Thigh forwards, with Partial Paralysis of the Extensor Muscles of the Knee-Joint.

By Dr. C. G. ROTHE, of Allenburg.

(*Deutsche Klinik*, No. 38, 1868.)

Fraulin von F., a pupil in a high class school, fifteen years of age, of strong build and in blooming health, was on May the 9th, amusing herself in company with several other pupils by swinging, and whilst standing behind the swing, formed of two pairs of long poles, and a long sitting-board, and thrusting the latter forwards, she caught her left foot in her dress, and fell upon the left knee. In order to keep herself from falling with much force, she clasped the swinging seat with both arms, and by the return movement of this her body was bent backwards, whilst the left knee was resting on the ground, and she was thrown to the ground, according to the statement of a teacher, rolled up like a ball. After she had been lifted up, and assisted to the sick-room of the school, a practitioner was sent for, and gave it as his opinion that the injury was not serious, but merely a contusion of the soft parts about the hip-joint. Dr. Rothe saw the patient at night, and found her slightly feverish and complaining of pain in the left hip, which was then covered by a bladder containing ice. No close examination of the seat of the injury was then made.

On the following morning, Dr. Rothe was informed that the patient had passed a very restless night, and that there was acute pain in the region of the left hip, particularly in the groin. There was at once found in the deep parts of the inguinal region, and evidently over the horizontal part of the pubis, a painful swelling of bony hardness, and of the size of the hen's egg: this at the inner part could be grasped by the hand, but externally was not clearly defined. At the inner side of the tumor could be readily perceived the pulsations of the stretched femoral artery. The very fleshy gluteal muscles were relaxed. Pain was excited by firm pressure. The trochanter could not be felt at the same level as that on the right side, and the region where it ought to have been was much flattened. The injured limb was stretched out by the side of its fellow, adducted, and increased in length to the extent of one inch. The foot was rolled completely outwards, and its point could be moved forwards to a slight extent only at the will of the patient, but by the application of force through three-fourths only of its normal range. At the inner and lower margin of the knee-cap was observed an abrasion one inch in length; the knee was somewhat swollen and painful. Active movements of the hip-joint were almost abolished; passive movements could be made in all directions, but caused severe pain. The patient had remarkable power over her left foot, which by a kind of scooping movement she could approximate to and even place over the sound extremity without exciting pain in the hip. The patient when placed in the upright position, and properly supported, was able to stand on both feet. Flattening and extension of the buttock then became very evident, and the oblique fold was somewhat deeper on the left side than on the right.

Dr. Rothe did not hesitate to assert that the case was one not of contusion, but of forward luxation at the hip-joint. He returned in the afternoon, in company with another practitioner, for the purpose of effecting reduction, but

was much surprised when his colleague, after a renewed examination, gave it as his opinion that the injury did not consist in a luxation, and that the diagnosis of the practitioner called in on the previous day was the correct one. This view was based on the relatively considerable passive mobility of the limb, and chiefly on the circumstance that the patient when in the upright position was able to abduct the left leg, and also to bring it to the side of its fellow. The tumor in the groin and the flattening over the trochanter remained unexplained.

Two days later Dr. Leonardi, of Dresden, was called in by the father of the patient, and after a brief examination fully agreed in the opinion of Dr. Rothe. With the assistance of a third surgeon the luxation was at once reduced by Monteggia's method. Chloroform was administered to the patient, who lay upon a mattress placed upon the ground; the pelvis was then fixed, and counter-extension kept up with a towel. Dr. Leonardi grasped the head of the femur—the tumor in the groin—whilst Dr. Rothe and the third surgeon forcibly extended the thigh downwards and outwards, the hip and knee-joints being bent at a right angle. As soon as Dr. Leonardi felt that the head of the bone was elevated on to the border of the articular cavity, he gave a sign to Dr. Rothe, who, seizing the left limb with his right hand in the popliteal region, and his left on the foot, rolled the foot inwards, and at the same time made a rapid and forcible movement of adduction. After this had been performed three times, the head of the femur passed with an audible sound into the acetabulum. The tumor of course disappeared, the trochanter regained its position, and the hip its natural extent and form.

At the end of two days all pains about the hip had ceased; the knee remained tender and slightly swollen. Exactly three weeks after the reduction the patient made her first attempt to move about. Supported by Dr. Rothe she went across her room, but complained that the left limb was lengthened, and that she was unable to step firmly on the left foot, which slipped. There was no pain in the hip-joint. Suddenly as the left flexed leg was being extended in order to be advanced forwards, the patient gave a loud cry and complained of severe pain in the knee. After she had been placed on her bed it was at once made out that the leg was not increased in length, and that the passive movements of the hip and knee-joints were completely normal. The pain, which had been soon relieved, was again excited by deep pressure close over the upper and inner margins of the patella, and extended upwards along the common extensor muscles, principally the vastus externus, as far nearly as the fold of the groin. Forcible flexion of the knee caused pain, and a slight prominence of the knee-pan.

The leg when flexed could not be extended at the will of the patient, whilst when once extended it was retained without pain in that position. The soft parts about the joints were slightly swollen. Dr. Rothe concluded that the extreme flexion of the knee during the original injury had caused an injury of the anterior portion of the capsule of the joint, of the fascia of the common extensor muscle, and of the muscular tissue itself, as a result of which paralysis together with hyperæsthesia of the extensor muscles remained. The affected muscles reacted in no very marked manner under the influence of the inductive current. As perfect rest of the injured parts seemed to be indicated, the patient was ordered to keep in the house, and a gypsum bandage was applied over the damaged knee; with this the girl was able to move about without pain. After the bandage had remained for some weeks the patient learnt to walk better. After its removal the swelling of the knee was found to be much reduced, and that the extremity could be held in the extended position for some seconds. Under the employment of spirituous liniments, and with methodical exercise of the muscles, the limb acquired strength, and the patient gradually improved, and was finally enabled to walk without the bandage.

This case Dr. Rothe considers worthy of notice, as being one of luxation of the thigh forwards on the pubis, associated with an evident lengthening of the limb to the extent of one inch, with slight depression of the pelvis on the side of the injury, and with excessive mobility of the luxated limb, which caused great difference of opinion in the determination of the diagnosis—a warning, as it appears to Dr. Rothe, for attention, in examinations of a like kind to be directed to the anatomical conditions, in the first place, and before the physiological and physical signs.

ART. 234.—*On Backward Luxation of the Head of the Femur.*

By M. TILLAUX.

(Gazette Hebdomadaire, No. 30, 1868.)

The following remarks were made by M. Tillaux at a meeting of the Imperial Society of Surgery:—

"I assert that the muscles are not the agents which limit the ascent of the head of the femur in luxation of the bone backwards. When the head of the femur passes under the obturator internus, it is not this muscle which prevents it from returning. It was the opinion of Malgaigne that in ischiatic luxation the head of the bone passed under the obturator internus, which muscle acted as a barrier and prevented the return of the femur. M. Broca also held this opinion; but I will endeavor to demonstrate that it cannot be admitted.

"Here is a preparation in which I have produced an ischiadic luxation. I cut all the muscles of the region: obturators, pyramidales, gemelli, and glutei, and now the head of the femur cannot be advanced a single line; consequently the obstacle is not formed by the muscles.

"What part in the production of dislocations of the hip is played by the capsule? It limits the movement of the head, and decides the form of the luxation. Here is a normal joint; iliac luxation is produced by a movement of inward rotation and of flexion with adduction. In this movement the capsule is rendered tense at its posterior part, and when flexion takes place at the same time, it is stretched at its inferior and posterior part. I make an incision in the capsule below and behind so that the head may pass out of the articular cavity; then by making a combined movement of flexion and rotation, incomplete luxation is produced. This always takes place. What is the condition of things in an incomplete ischiadic luxation? There is rupture of the capsule behind and below; when the capsule is ruptured only at this point, the luxation is always incomplete. This fact is confirmed by the reports of three autopsies made by Malgaigne. There are, then, incomplete luxations of the femur.

"What must take place for the production of a complete iliac or ischiadic luxation? Here is a preparation in which the head of the femur is retained merely by a very small piece of the anterior part of the capsule. Here I can readily produce an iliac luxation, but the head of the femur cannot be located on to the ischium; the portion of capsule preserved intact prevents the head of the bone from being carried backwards. Thus, by preserving the anterior part of the capsule alone an iliac luxation is produced. You see that in order to produce an ischiadic luxation the capsule must be completely divided. I will make now an inverse demonstration: by preserving only the superior part of the capsule, I obtain an ischiadic luxation, and I cannot have an iliac-luxation.

"I conclude from these experiments that there are two forms of cases—femoral luxations backwards, the iliac and the ischiadic; in order to transform an iliac into an ischiadic luxation, it is necessary to make a complete rent into the capsule. There are three varieties of ischiadic luxation, according to the extent of the rent. In the first variety, the head of the femur rests upon the groove situated below the tuberosity of the ischium; in the second variety, the head is level with the spine of the ischium; in the third variety, the head of the femur rests upon the ischium at the point where this tuberosity is continuous with the ilium, and sometimes in the sciatic hollow."

ART. 235.—*On the Impacted Fracture of the Neck of the Thigh-bone, more particularly in Reference to its Diagnosis; with Cases.*

By THOMAS BRYANT, F.R.C.S.

(British Medical Journal, August 22.)

The author commenced his communication by dwelling on the importance of the diagnosis of cases of impacted fracture, and that too in the very earliest

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

period of the case, and expressed an opinion that the diagnosis of such form of injury is not one of difficulty. He referred in complimentary terms to the work of Professor R. W. Smith of Dublin, and stated his own investigations tended to support the opinions of that eminent surgeon. He believed with Mr. Smith, that all extracapsular fractures of the neck of the thigh-bone are in the first instance impacted fractures; and that many intracapsular fractures, and all the mixed forms, are of a like kind. The impacted bones are loosened in some cases by a second fall, in others by excess of violence received in the original accident, and in too many instances by the surgeon in his anxiety to make out the presence of a fracture by the detection of crepitus. He said that this looking for crepitus, in all cases of fracture, is a practice of considerable danger; in fractures of the neck of the thigh-bone it is not only unnecessary, but it is unjustifiable. It is unnecessary, because the diagnosis of the case can be made out without the help of such a symptom; it is unjustifiable, because in every case of impacted fracture, the attempt to find it is attended with irreparable mischief. Twelve cases of impacted fracture were then read in detail, and some preparations exhibited. The following summary of the symptoms, by which the nature of the injury was determined, was then given. In all, the injury to the hip-joint was communicated through the trochanter. In all, as an immediate result of such an accident, there was more or less complete inability to move the limb; but in two of the cases the patients, when in a recumbent position, could slightly flex the thigh upon the pelvis, and in one instance rotate the limb. In all, the injured limb was found to be shorter than its fellow by almost an inch, and in no case did careful extension make any perceptible diminution in the amount of shortening present. In all, the foot was either slightly everted or straight, but in no case was it everted as it is usually in the non-impacted fracture. In one case, however, this eversion was less marked than in the sound limb. In all, the head of the femur could be made to rotate in the acetabulum, and the trochanter moved with it. In few of the cases was crepitus felt, and when felt it was indistinct. In all the cases, the major trochanter was clearly placed nearer the median line of the body, than on the sound side, and nearer also the anterior superior spine of the crest of the ilium. The author concluded by expressing his belief that the symptoms enumerated clearly indicated an impacted fracture; and stated that, as a rule of practice, it would be far safer to regard all cases of injury to the hip-joint, received through the trochanter, as examples of the impacted fracture, and to conclude only that such was not the case when the symptoms clearly proved a different condition to exist, than to leave the suspicion of such a form of injury out of consideration altogether, or only to entertain the idea of its presence when the symptoms which the case presents are clearly inconsistent with the existence of any other form of recognized injury.

ART. 236.—*Treatment of In-growing Nail.*

By Dr. BABB.

(*Boston Journal*, July 9; and *Medical Times and Gazette*, August 29.)

Dr. Babb says that for several years he has been in the habit of employing in these cases, with uniform success, a saturated solution of persulphate of iron. A bit of cotton wool saturated with this is insinuated between the fungous flesh and the nail, letting the cotton turn back over the flesh on the outside also. Success depends much on the thoroughness with which the bit of cotton is pushed down to the bottom or edge of the in-growing nail.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 237.—*The Value of Chloroform in Parturition.*

By JOHN HALL DAVIS, M.D., F.R.C.P.

(*Parturition and its Difficulties.*)

THE value of chloroform, Dr. Davis writes, is especially marked in the relaxation of rigidities of the os uteri, vagina, and perinæum, for which in former days bleeding was not an unfrequent remedy resorted to. It is also most beneficial in securing the quiescence of otherwise restless patients in forceps and craniotomy deliveries, as well as in facilitating the operation of turning; nay, in rendering it possible, where otherwise its performance would be wholly impracticable. Dr. Davis has repeatedly succeeded with chloroform in accomplishing version, and in some cases in saving the child thereby, when proper but fruitless attempts had been already made, and embryotomy had, in consequence, been prepared for.

ART. 238.—*On the Pain of Parturition and Anæsthesia in Obstetric Practice.*¹

By A. E. SANSOM, M.D.

(*Medical Times and Gazette, July 25.*)

The author commenced by giving a *résumé* of the history of chloroform, and then referred to the immunity from danger that prevailed in chloroformization in obstetric practice, apparently from the fact that women are less prone to the ill effects of chloroform than men, and the abolition of pain was one of the earliest and simplest effects of the anæsthetic. The author then entered upon an examination of the nature of the pain of parturition. True uterine pain differs from pain affecting the sensitive surfaces of the body in being referred to parts other than the uterus itself, and in the fact that the nerves involved are not those of common sensation, but the great sympathetic. The cervix is the starting point and chief centre of true uterine pain; the nerve filaments which supply the intestines, the periphery, where occurs the chief manifestations of pain; the correlated influences contributing to form the entirety of the pain being chiefly spasm of local muscles and pains more remotely reflected to other parts of the body. True uterine pain presents just those conditions which anæsthetics are best calculated to relieve at the earliest stages of their influence; for pain and spasm are always annulled before common sensibility, and the sympathetic is more readily influenced than the nerves of common sensation. Parturition, however, at the full term differs from true uterine pain in the super-addition of motor correlations, these being so closely united that "pains" and contractions are used synonymously. The tendency of modern investigation has been to show that the abrogation of the pain of labor is a direct means of diminishing after dangers, and so of conserving life. The only question, therefore, which occurs is, whether anæsthetics

¹ Abstract of a paper read at a meeting of the Obstetrical Society of London, July 25.

ever superinduce danger, and so compromise the boon of the abolition of suffering. The author considered that hemorrhage and possibly a retardation of expulsive efforts, had in some instances issued from the use of chloroform, but it was easy to find a reason for these complications. Either a too profound narcosis had been induced, or the agent employed had caused an enfeeblement of the powers of the circulation. Both these conditions are to be prevented by a cautious use and proper dilution of the agent employed. The author then entered at length upon the *rationale* of the action of anæsthetics, showing that chloroform acts, not by any special determination to the brain, but, like carbonic acid and the gaseous narcotics, by suspending the normal oxygenation of the blood. The first effect of anæsthetics is upon the forces of the circulation, which they exalt by increasing not only the *vis-a-tergo* of the heart, but the contractile and therefore impulsive powers of the arteries. This effect, however, varies with different anæsthetics, and this is the keystone of their danger. Chloroform, when dilute, allows of anæsthesia with no impairment, but even an exaltation, of the powers of the circulation; but concentrated it acts by superinducing circulatory paralysis. Again, anæsthetics impede the oxygenation of the blood. In doing this they do not obviously act as so-called asphyxiants. The blood need not show any change in color, but yet science has proved that its property as an oxygen-absorber is suspended. The author next passed in review the agents at present used to relieve the pains of labor: 1. Tetrachloride of carbon, which he considered the best agent to relieve headache and the slighter manifestations of pain, but not the pains of parturition. 2. Bichloride of methylene, which seemed to present no advantages over chloroform. 3. Nitrous oxide, which, as inducing a state of asphyxia repeatedly, as would be the case in the course of parturition, he could but condemn. 4. Chloroform, which carefully administered and properly diluted, he considered the best of all anæsthetics in this branch of practice. The great desideratum is to avoid large doses, and, above all, large proportions. It is abundantly proved that an atmosphere containing from 1 to 5 per cent. of chloroform vapor is sufficient for all the purposes of anæsthesia. A table containing the results of a large number of experiments detailed by the author showed that when chloroform is given by a handkerchief in the common way at temperatures of from 60° to 64° F. the proportion may vary from 9 to 35 per cent. From a number of other experiments the author determined that absolute alcohol is a good diluting agent for chloroform, restraining its volatility so that in a mixture of equal parts about one-half the vapor is given off which would obtain in the case of undiluted chloroform. The author concluded by strongly recommending to those who practised obstetrics the employment of an anæsthetic composed of one part of liquor chloroform mixed with three parts of absolute alcohol.

ART. 239.—*On Rigidity of the Os Uteri.*

By J. HALL DAVIS, M.D., F.R.C.P., Obstetric Physician to the Middlesex Hospital.

(Parturition and its Difficulties.)

Rigidity of the os uteri, Dr. Hall Davis says, may be divided into the functional and organic. The former is often resolved in time by the actions of labor, although sometimes requiring the aid of relaxing remedies. The latter form of rigidity, the organic, is more rare, and is due to some structural change in the part—from inflammation, cicatrices from former lacerations or sloughings, from carcinoma. To avoid a rupture in these cases, incisions have sometimes been resorted to; but in most cases there is left a sufficiency of intervening healthy tissue to allow of the needful dilatation without that extreme measure. In functional rigidity, time, and the natural vital actions of the part, will effect much; but so great is the suffering and the danger of laceration when the pains are violent, that treatment for the removal of such rigidity will be necessary.

The tartar emetic, the sixth or eighth of a grain every half-hour for a few

doses, will, Dr. Davis has often found, in an hour or two, bring about the desired relaxation, promoting an abundant flow of mucus.

Chloroform will also be found of great value in these rigidities, where the patient's health offers no contra-indication to its use; since at the same time that it induces relaxation, it also greatly soothes, or removes entirely for the time, the sufferings of the patient. It should be given gently, and sometimes the extra precaution adopted in Mr. Clover's plan, of administering it mixed with a definite quantity of air, will be found advisable. Or we may follow the recommendation of the Chloroform Committee of the Royal Medical and Chirurgical Society, and exhibit the vapor from mixture A. :—

Alcohol	-	-	-	-	1 part, sp. gr. 838
Ether	-	-	-	-	3 parts, sp. gr. 735
Chloroform	-	-	-	-	2 parts, sp. gr. 1497

(As first suggested by Dr. Harley.)

Or from mixture C. :—

Chloroform	-	-	-	1 part.
Ether	-	-	-	2 parts.

In all cases, however, care should be taken when giving the vapor to insure the patient's inhaling also an ample quantity of air. Dr. Davis has always himself employed pure chloroform saturated in a handkerchief, and held about two inches from the nostrils, not more than ten or twenty minims at a time. Given thus cautiously, he has never met with any injurious effects on the patient.

Dr. Davis condemns as officious and injurious the treatment of scooping or mechanical dilatation of the os uteri with the finger.

In cedematous conditions of the os uteri, usually affecting its anterior segment, relief will sometimes be afforded by making pressure upon the head backwards during a few pains, so as to liberate the swollen portion, and allow of its ascent above reach of pressure between the head and the pubic bones.

ART. 240.—*Rigidity of the Os Uteri ; removed by Chloroform Inhalation.*

Under the care of J. HALL DAVIS, M.D.

(*Parturition and its Difficulties.*)

The following case is related by Dr. Davis in his work on "Parturition and its Difficulties":—

"In December, 1847, I was requested by Mr. M'Nab to meet him in a primiparous labor of twenty-four hours' duration; patient's age thirty-four. The liquor amnii had come away six hours before my visit, and at the same time the head had engaged in the pelvic brim, in the first oblique position.

"*Present State.*—Os uteri rigid, half-dilated, anterior lip low down and swollen; vagina and skin hot and dry; pulse 90, not hard; the pains feeble.

"It occurred to me that chloroform, which had but recently been introduced by Professor Simpson into midwifery practice, might be usefully selected as the remedy to soften the os uteri and vagina, and to lull the patient's sufferings, which were very severe.

"I administered it on a handkerchief, folded cup-shape, holding it near her mouth and nose. In less than a minute the patient was fully unconscious of pain, and apparently asleep. Three and a half drachms of chloroform were consumed in the course of two hours, when I discontinued it, the object of its exhibition having been fully attained.

"The os uteri was now soft and fully dilated; the genital canal abundantly supplied with mucus throughout, and of a natural temperature; the skin moist and not heated; the pains strongly propellent. Within an hour after, a fine living child was born. There was no hemorrhage. The uterus contracted well, expelling the placenta. The patient had a good recovery."

ART. 241.—*Congenital Deficiency of the Hypogastric Region.*

By JOHN DICKIE, M. D., L.R.C.S.E., Alloa.

(British Medical Journal, November 28.)

Mr. Dickie sends the following short note of rather a rare congenital malformation in a child delivered by him on the 18th instant. It might be called a case of epispadias complicated with a deficiency of the pubic portion of the abdomen. On the fourth day after birth, when the umbilical cord had separated, he made a minute inspection of the parts with a view to discover whether or not the malformation might be remedied by a surgical operation. The scrotum was largely developed, empty, and from its upper border an apparently normal penis projected, but it was *minus* the membranous portion of the urethra, and had a flattened gland fully exposed; immediately above this in the mesial line, as far up as the umbilicus, was an irregular space completely occupied with a round movable mass, which had a slight elevation on each side. This was evidently the bladder, showing the openings of the two ureters on its internal surface. Pushing the mass down into the pelvic space, he observed the urine flowing from the bottom of the cavity, but could not detect the exact point of exit. The os pubis was also deficient, and to approximate the two sides of the space considerable stretching was necessary; in fact, it was with great difficulty he could even bring them together. Dr. Dickie now had to desist from further examination, owing to the struggling of the child and an oozing of blood from the still tender umbilicus. The bowels were acting regularly and well, and otherwise the child appeared to be thriving and likely to live. Considering the non-development of the urethra, the likelihood of a portion of the bladder itself being deficient, and the danger to life attending such operations as that recommended by Mr. Simon, of St. Thomas's Hospital—namely, to direct the flow of urine into the rectum—Dr. Dickie came to the conclusion that the case was beyond the reach of curative surgery.

ART. 242.—*Comparative Estimate of the Value of Different Signs of Pregnancy.*

By GRAILY HEWITT, M. D., F.R.C.P.

(The Diagnosis, Pathology, and Treatment of Diseases of Women.)

In summing up generally the signs of pregnancy, and in stating the period at which the different signs are available for diagnosis, Dr. Graily Hewitt says that perfect evidence of pregnancy is not obtainable until after the third month, unless in those very rare cases where the fetal heart may be heard just at the end of this time. The evidence obtainable before this date only enables us to come to the conclusion that pregnancy is *probable*. The signs (probable ones) of pregnancy up to this time are—suppression of the menses, swelling of the breasts, descent of the lower part of the uterus in the pelvis, flattening of the abdomen. An examination will not usually enable us to give a positive opinion, if undertaken at this time.

After the end of the third month, during the fourth and fifth, an abdominal and a vaginal examination give, or may give, decisive indications. Menstruation is still absent in ordinary cases; the breasts continue to enlarge, and the areolar changes become developed; the os uteri undergoes its characteristic changes; the uterus can be felt to be enlarged from the vagina and above the pubes; the vagina assumes a dusky hue; the motions of the fetus can be felt by the observer and by the patient; ballottement is recognizable; the sounds of the fetal heart can be heard.

After the first month, and up to the end of pregnancy, the symptoms just described *continue*, and become intensified.

The signs of pregnancy may be arranged under two classes—1, the certain; and 2, the probable.

1. *The certain signs of pregnancy are*:—The active movements of the child unequivocally felt by another; the presence of the child *in utero* ascertained by ballotement; the sounds produced by the pulsations of the foetal heart.
2. *The probable signs of pregnancy* need not be enumerated.

ART. 243.—*On Turning in Contracted Pelvis.*

By ROBERT BARNES, M. D., Fellow and late Examiner in Midwifery at the Royal College of Physicians; Obstetric Physician and Lecturer on Midwifery and the Diseases of Women and Children at St. Thomas's Hospital.

(*Medical Times and Gazette*, September 5, 1868.)

The value of turning in moderate degrees of pelvic contraction rests greatly upon the truth of the following proposition: *The head will come through the pelvis more easily if drawn through base first, than if by the crown first.* Baudelocque affirmed this proposition ("L'Art des Accouchements"). He said: "The structure of the head is such that it collapses more easily in its width, and enters more easily when the child comes by the feet, if it be well directed, than when it presents head first." Oslander had maintained the same opinion. Hohl (1845) also pointed out that the bones overlapped more readily at the sutures when the base entered first. Simpson (1847) insisted strongly upon the truth of this proposition, and illustrated the mechanism of head-last labors with much ingenuity. The proposition has, however, been disputed, and that by Dr. M'Clintock (*Obstetr. Transact.*, vol. iv. 1863). He says: "I do not believe that the diameters of the head are more advantageously placed with regard to those of the pelvis, nor can I believe that the head is more compressible when entering the strait with its base than when it does so with its vertex, till this be demonstrated by direct experiment."

It is also contested by Prof. E. Martin, of Berlin (*Monatsschr. f. Geburtsk.* 1867). He especially insists that when the vertex presents moulding may go on safely for hours; but that if the base come first the moulding must be effected within five minutes to save the child.

I venture to submit that I have made such clinical observations as are equivalent to direct experiments. In the first place, let me state a fact which I have often seen. A woman with a slightly contracted pelvis, in labor with a normal child presenting by the head, is delivered after a tedious time spontaneously or by the help of forceps; the head has undergone an extreme amount of moulding, so as to be even seriously distorted. The same woman in labor again is delivered breech first; the head exhibits the model globular shape, having slipped through the brim without appreciable obstruction. For examples see my outlines of heads (*Obstet. Trans.* 1866).

In the second place, I have on several occasions been called to an obstructed labor in which the head was resting on a brim contracted in the conjugate diameter. Of course, Nature had failed; the *vis a tergo* was insufficient. I have tried the long double-curved forceps, trying what a moderate compressive power aided by considerable and sustained traction would do to bring the head through, and have failed. I have then turned, and the head coming base first has been delivered *easily*. Upon this point I cannot be mistaken. And I think this greater facility can be explained. Dr. Simpson has illustrated by diagrams how the head, caught in the conjugate at a point below its bi-parietal diameter, is compressed transversely as traction force is applied below, causing the mobile parietals to collapse and overlap at the sagittal suture. And surely no one can doubt that the traction power, and therefore the compressing power, acquired by pulling on the legs and trunk, is infinitely greater than can be exerted by the strongest forceps. But there is another circumstance in the clinical history of head-last labors in narrow conjugate which affords a remarkable illustration of this proposition. *The head is rarely, or never, seized in its widest transverse diameter; it is seized by the conjugate at a point anterior to its greatest width—that is, in the bi-temporal diameter: the bi-parietal and*

occiput commonly finding ample opportunity for moulding in the freer space left in the side of the pelvis behind the promontory. The head, in fact, fits or moulds into the kidney-shaped brim wherever there is most room. I have given illustrations of this point also in the memoir referred to (*Obstet. Trans.* 1866). I think, therefore, it may be taken as demonstrated, that the head coming base first passes the contracted brim more easily than coming crown first. And if the head comes through more easily, it may be inferred that the child will have a better prospect of being born alive.

Can we define with any precision the conditions as to degree of pelvic contraction that are compatible with the birth of a living child? The question is not easy to answer; nor is it important to be able to answer it very precisely. The great fact upon which the justification of the operation rests is this: many children have been delivered by it alive, with safety to the mother. We know accurately only one element of the problem—namely, the degree of contraction of the pelvis. The other element, the relative size and hardness of the foetal skull, we can but estimate. *We must assume, in many cases, a standard head.* With this assumption the practical question is reduced to this: *What is the extreme limit of pelvic contraction justifying the attempt to deliver by turning?* In other words this means: What is the narrowest pelvis that admits of the passage of a normal head? This is answered chiefly by experience. It is not to be answered by *a priori* reasoning like that urged by Dr. Fleetwood Churchill, who says, even in his last edition ("Theory and Practice of Midwifery," 1866): "The bi-mastoid diameter in the six cases measured (by Dr. Simpson) varied from 2½ to 3½ inches, and a living child can pass through a pelvis of 3½ inches antero-posterior diameter, with or without the forceps. With a pelvis of this size, then, the operation is unnecessary; and if the antero-posterior diameter be less than 2½ inches, the operation would be impracticable. These, then, are the limits of the operation; for us to attempt to drag a child through a smaller space would be unjustifiable."

To this statement of the case serious objections may be taken. The proposition that a living child can pass through a pelvis with an antero-posterior diameter measuring 3.25", with or without the forceps, can only be accepted with considerable qualifications. I claim to speak with confidence drawn from large experience when I say, that a head of standard proportions and firmness will hardly ever pass a conjugate reduced to 3.25" without the forceps, and very rarely indeed with the forceps—that is, alive. I might even extend the conjugate to 3.50", and affirm the same thing. The compressive power of the forceps, unless very long sustained, is not great, rarely great enough to reduce a bi-parietal diameter of 4.00" to 3.50" without killing the child. My opinion, then, is that a standard head, especially if it happen to be a female head, which is more compressible than a male one, *may be drawn through a conjugate of 3"*, but not with much prospect of life; and that the proper range of the operation of turning is from 3.25" to 3.75", at the latter point coming into competition with the forceps. I believe no one advocates resort to turning when the conjugate measures less than 3".

A correlative proposition to the foregoing is the following: *Compression of the head in its transverse diameter is much less injurious to the child than compression in its long diameter.* The truth of this is attested or admitted by most authors who have considered the point. It is insisted upon by Radford, Ramsbotham, and Simpson. It is confirmed by the observation of the form which the head assumes under moulding in natural labor, which, as I have shown, is effected by the lengthening of the fronto-occipital diameter and the shortening of the transverse diameter. (*Obstet. Trans.*, vol. vii. 1866, and *Medical Times and Gazette*, vol. ii. 1867.)

Now, it is an almost necessary consequence that when the head arrested on a contracted brim is seized by the forceps, it is seized by its fronto-occipital diameter, and to the longitudinal compression is added the increased obstruction to the entry of the head into the narrowed conjugate caused by the lateral bulging.

We will now discuss the question—What is the penalty incurred, or how can we retrieve our error, if we turn and fail to bring the head through the too

contracted brim? Undoubtedly, the patient will have to go through a second operation. We are driven to perforate after all. We have tried to save the child, and have failed. Is the mother imperilled by this attempt and failure? This also must be answered by experience. Of course, the mother may suffer if we persevere in dragging the child too long and too forcibly. But we have a right to assume that the attempt is controlled by skill and discretion. The amount of force that can be safely endured is very great—far greater than those who have never seen the operation would readily credit. The violence to which the soft structures are subjected seems to be small in proportion to the traction-force exerted. There appears to be some saving or protective condition. This, I think, is found in the mechanism of the process. I refer to Lecture V. (*Medical Times and Gazette*, November, 1867) for an illustration and description of the mechanism of labor in contraction of the pelvis from projection of the promontory. This projecting promontory forms the centre of rotation around which the head must rotate in order to enter the pelvic cavity. The side of the head applied to this point scarcely moves at all. The promontory catches the fetal skull in the fronto-temporal region. If the coarctation be decided, the skull where it is caught bends in. All the onward movement is effected by the opposite or pubic side of the skull sweeping in a circle, which I have called "the curve of the false promontory," until the equator or greatest circumference has passed the plane of the brim, when the whole head slips into the cavity with a jerk. Now, injurious pressure is avoided on the pubic side by the smoothness and flatness of the inner surface of the pelvic brim, and by a gliding movement of the soft parts intervening between the head and the bony canal. Injurious pressure is avoided over the promontory by the yielding or moulding of the head. The temporal and parietal bones will bend in, even break. Children have been born alive after this bending or breaking. Sometimes a large cephalhæmatoma forms at the point of depression. In other cases the child perishes. The observation of these cases shows that the mother will bear with safety an amount of pressure which was sufficient to kill the child.

What follows? This obvious corollary—that the mother will safely bear that lesser degree of pressure which is required to bring through a living child.

The operation, then, is justified in cases of contraction that admit of the passage of a living child. It is further justified in cases of contraction to a certain, though small degree of contraction beyond this, which admits of the passage of a dead child. We have here, perhaps, carried the experiment to the verge of what is justifiable. Beyond this, there being no possibility of getting a child, live or dead, through the pelvis, it would of course be better not to go. And if all the conditions of the problem could be precisely ascertained beforehand, we should not go beyond this. But, whilst calculating upon an average or standard head, we may encounter a head above the standard in size or hardness, and thus, in our endeavor to save the child, we may find ourselves in a difficulty. The extrication is by perforation. By lessening the head, it is brought within the capacity of the pelvis. This is, indeed, an acknowledgment of defeat; it is beating a retreat. The justification, however, is that we accomplish in the end exactly that which those who reject the operation accomplish—namely, the safety of the mother. We have tried to do more—to save the child as well.

ART. 244.—*On the Mechanism of Turning, and on Turning in Cases of Contracted Pelvis.*

By Dr. SCHARLAU.

(*Monatschrift für Geburtskunde*, May, 1868; and *Schmidt's Jahrbücher*, No. 9, 1868.)

During four years' practice at a lying-in institution, Dr. Scharlau has performed turning in 61 cases by internal, and in 3 cases by external manipulation, in the latter cases twice upon the buttock and once upon the head; all three children survived. The internal turning was made in every instance upon

the pelvic extremities, 58 times with one, and 3 times with both feet. The following were the indications in the 61 cases of internal turning: 44 times a cross position, once after a previous attempt at forceps, extraction with a head placed high up, 8 times prolapsed funis with head presentation, once spontaneous rupture of uterus with expulsion of child into pelvic cavity, 5 times arrest of the head's progress on account of contracted pelvis and symptoms of contusion of the maternal parts, once protrusion of the extremities with the head, in two cases protrusion of the head and umbilical cord with the head, once placenta previa, and once presentation of an ear giving rise to injury of the maternal parts. Of the 64 children, 50 were living before the turning; of these 43 were born alive, 7 only died during the operation. Five of the women died, 2 from metrophlebitis, and 2 from rupture of the uterus.

Scharlau prefers the side position to any other, and the turning by one instead of both feet; and in cross presentations by that foot, if possible, which belongs to the presented side of the child. The woman should always be placed upon that side to which during cross presentation the pelvic end of the fœtus, and during head presentation the abdominal surface, is directed. Kristeller recommends that with internal turning the foot should be seized which corresponds to the presenting side when the back of the child is directed forwards; and on the other hand, when the belly of the child is directed forwards, that foot which does not correspond. Although no objection may be raised against the theory of this recommendation, Scharlau still holds that it must be rejected as uncertain in practice, as no cases have occurred to him in which turning by the upper foot had failed in experienced hands, where the operation was not readily accomplished by seizing the lower one.

On basing the indications for turning with a contracted pelvis on the preservation of the life of the child whose vertex is presented, two important questions have to be considered: viz., in what way does the child sink in cases of head presentations with a narrow pelvis, and what are the advantages offered by bringing the head last through a contracted pelvis? With regard to the first point, it may be stated that the early formation of a head tumor, which with labors prolonged for days often becomes colossal, and the hyperæmia and œdema set up by this, will frequently kill children before it is possible to apply the forceps, and after the time when the performance of turning seems no longer justifiable. In some cases indeed children are born still living, but in so low a condition that all attempts at restoring life are fruitless. It is the too long-continued labor after the rupture of the membranes that in cases of head presentation especially will thus cause the destruction of the child.

The advantages of bringing the head away last consists in the possibility of being able to place this, when unfavorably situated, in a better position, and also in the possibility of utilizing more efficiently the elasticity of the bones of the cranium. Not only does the bi-temporal diameter, in consequence of the union of the sutures, and of the thin osseous plates thus formed, undergo a considerable amount of compression; but also the bi-parietal diameter may by depression and bending of one or other parietal bones, be so reduced as to be capable of traversing the contracted conjugate of the pelvic inlet. This depression is always exerted at the anterior half of the parietal bone carried down in front of the promontory, but never, as Martin asserted, near the coronal suture at a considerable distance from the parietal protuberance; the protuberance itself may rather take part in the depression. In favorable cases the elasticity of the cranial bones is so considerable that they may be depressed, and return at once to their normal positions when the head has passed the contraction. In instances of this kind, one may perceive, during the progress of the following head, that the obstruction at the promontory is suddenly overcome; upon the scalp is often found a red mark of the pressure, formed by ecchymosis, which sometimes passes close to or even over the parietal tuberosity, so that by the course of this one may determine with certainty the manner of the passage of the head through the conjugate. Frequently a cephal hæmatoma is formed at the compressed part. In the majority of cases, room enough is readily found by the promontory to permit here the passage of

the broad occiput, but the possibility of the passage with the bi-parietal diameter through the conjugate cannot exist.

Scharlau gives the reports of twelve cases; in eight of these the life of the child was preserved (one child was already dead before the operation), and the mother in every case recovered; this result is to be considered in a more favorable light, from the fact that nearly all these women had previously been repeatedly delivered with difficulty of dead children. The following conclusions are based by Scharlau upon his recorded cases:—

1. By turning in a contracted pelvis children may be preserved who, with a head presentation, would probably have died after a long-continued labor, or with whom some reducing operation would have been required for the purpose of saving at the last the mother.

2. That shortening of the smallest pelvic diameter may fall to $7\frac{1}{2}$ centimetres, and yet a favorable result be produced by turning even a well-developed child.

3. Not only the bi-temporal but also the bi-parietal cephalic diameter may be so compressed, that a pelvis contracted in its conjugate even to 7.5 centimetres, may allow the passage of a well-developed living child followed by the maintenance of life.

4. In turning for the purpose of saving the child's life in head presentation, it is, though desirable, still not an indispensable condition, that the oblique diameter of the pelvis should be sufficiently great in order to allow the broad occiput to pass by the promontory.

The indications laid down by Martin for turning with the foot, in cases of contracted pelvis, are extended by Scharlau in accordance with the results of his own practice: when multiparae with pelvic contraction of from $7\frac{1}{2}$ to 9 centimetres in the true conjugate, who have been repeatedly delivered with difficulty of dead children, when the head has been presented, and with whom probably some presentations of the pelvic extremities have given more favorable results, are in labor with a well-developed child, one is evidently justified in having recourse to turning for the purpose of saving the foetal life, and even in cases where the oblique diameter of the pelvis is not normal in extent; in consequence of the proved possibility that the osseous parts of the cranium, including the parietal protuberances, can under certain circumstances be depressed without damage—it being presupposed that the efficient conditions for this operation are fulfilled.

ART. 245.—A Case of Contracted Pelvis with Head and Foot Presentation; Turning and Craniotomy.

Under the care of Dr. GRAILY HEWITT, of the University College Hospital.

(*The Lancet*, Oct. 31, 1868.)

The following interesting case is of recent occurrence. For the report of it we are indebted to Mr. Frederick White.

The patient, Mrs. B—, aged thirty-three, is small in stature, thin, and not a strong woman. Has had two children previously. The first was born dead on Oct. 4th, 1865, after she had been four days in labor. No instruments were used. There has been considerable laceration of the perineum, which probably took place in the first labor. The second child was born July 18th, 1867; the labor had lasted three days, and it appears that craniotomy was performed.

Mr. White was sent for at 1.15 A.M. on Oct. 6th, and on examination found the os uteri dilated to the size of a shilling, the patient having been in labor since 7 P.M. of the previous evening. At 3 A.M. the membranes ruptured spontaneously, the os uteri not being fully dilated. Previously to the rupture of the membranes Mr. White was unable to make out the presentation, but he then found that the head was presenting in the first position on the left side, and both feet were down on the right side, the right foot being lower than the left.

Mr. White at once sought the assistance of Mr. Mason and Mr. Hodgson, the obstetric assistant, who arrived at 4 A.M. Mr. Hodgson tried to reduce

the feet; but was unable to do so, for the moment they were pushed back they immediately returned to their original position. He then decided to turn, and brought down the feet and body of the child in the abdomino-anterior position. There was then very considerable difficulty in bringing down the arms. The left arm was placed above the head. The left was brought down first, the right soon following. An attempt was then made to rotate the body; but when slight rotation had been effected, the head became fixed in the brim of the pelvis, the face looking towards the left sacro-iliac synchondrosis. Traction was employed for some time without any effect; and then the long, straight forceps were used. Mr. Hodgson succeeded in getting one blade on; but failed in attempting to apply the second. Dr. Graily Hewitt was then sent for, who, on finding the head fixed in the brim, decided upon perforating the head. The child had been dead for some time. The head was perforated just behind the mastoid process on the left side. There was some difficulty in doing so, from the thickening of the bones. At 7.30 the child was born. A considerable gush of blood followed along with the placenta, as the placenta had probably been separated for some time before delivery. Subsequently some difficulty was experienced in getting the uterus to contract, and three-drachm doses of the tincture of ergot were given; but, as the uterus did not very firmly contract, some powdered ergot was given also. Cold was applied to the abdomen, and pressure used from the first. At 8.30 A. M. all hemorrhage had ceased, the uterus was contracted, and the patient was left. During the whole of the latter part of the labor, brandy and laudanum were freely administered. On the 8th of October the patient was doing well. A fortnight after the labor the patient was well enough to resume her household duties.

In reference to the above interesting case, Dr. Graily Hewitt observed that the pelvis was contracted, probably by as much as one inch, in the conjugate diameter; and that in a future occasion it would be proper to induce labor at eight months. The shape of the brim was such—wide at the sides, and contracted in the middle—that it allowed, and doubtless was the cause of, the unusual presentation—viz., that of the head on one side, and the feet on the other. Another point illustrated by this case was this: In cases of pelvic contraction the uterus was often too large just after the labor, even when properly contracted, to descend into the pelvis; and it was hence sometimes erroneously supposed that it was inefficiently contracted. In the course of twenty-four hours, however, the size so diminished that—unless the pelvic deformity be excessive—this organ resumes its proper position, and is no longer so obvious to the touch in the hypogastric region.

ART. 246.—On Turning in Narrow Pelvis.

By Dr. STRASSMANN.

(*Monats. f. Geburtsk.*, June; and *British and Foreign Medico-Chir. Review*, October.)

Dr. Strassmann shows by cases that turning in narrow pelvis may give successful results, even when the greatest or bi-parietal diameter of the child's head is caught in the narrowed conjugate, and that it is therefore not essential in performing the operation to take care that the occiput shall fall into the wider half of the pelvis. He says it is difficult or impossible to secure that the occiput shall so fall. In one case he delivered with great difficulty a child, which died soon after birth, by the forceps through a pelvis the conjugate of which measured 2.75", although the occiput came through the wider half of the pelvis; in the second labor he delivered the same woman of a live child which survived by turning, although the occiput came through the smaller half of the pelvis. Three other cases illustrate the same point. In all four cases the conjugate gave at the utmost 3". Three children were born alive, one having died from prolapsus of the funis before turning. Strassmann insists much upon the importance of aiding the extraction of the head, by pressing upon the head through the abdomen externally.

ART. 247.—Turning when Liquor Amnii has run off, the Uterus being contracted upon the Child.

By ROBERT BARNES, M. D.

(*Medical Times and Gazette*, June 20, 1868.)

So long as there is any liquor amnii present in the uterus, and often for some considerable time afterwards, the bi-polar method of turning is applicable. But a period arrives when it becomes necessary to pass a hand fairly into the uterus in order to seize a limb. We will now discuss the mode of turning under the more difficult circumstances of loss of liquor amnii, more or less tonic contraction of the uterus upon the child, and descent of the shoulder into the pelvis.

The contraction of the uterus, necessarily concentric or centripetal, tends to shorten the long axis of the child's body. The effect is to flex the head upon the trunk, and to bend the trunk upon itself, reducing the ovoid to a more globular form. This brings the knees nearer to the chest, but does not diminish the difficulty of turning.

I need not pause again to discuss minutely preparatory measures. It is only necessary here to call to mind that chloroform or opium is especially serviceable, and that it is important to empty the bladder and rectum.

The first question to determine is, *Which hand will you pass into the uterus?* I have given some of the reasons why the left hand should be preferred, in Lecture XII. (See *Medical Times and Gazette*, May 2, 1868.) In the majority of cases the child's back is directed forwards; to reach the legs, which lie on the abdomen, your hand must pass along the hollow of the sacrum, and this can hardly be done, the patient lying on her left side, with the right hand, without a most awkward and embarrassing twist of the arm. I need scarcely point out how violent and unnatural a proceeding it would be to pass up the right hand between the child's back and the mother's abdomen, to carry the hand quite round and over the child's body in order to seize the feet, which lie towards the mother's spine, and then to drag them down over the child's back. If you attempted this, you would probably get into a difficulty. The child, perhaps, would not turn at all. To avoid this failure, the rule has been laid down to pass your hand along the inside or palmar aspect of the child's arm. This will guide you to the abdomen and the legs. Or the rule has been stated in this way: Apply your hand to the child's hand, as if you were about to shake hands. If the hand presented to you be the right one, take it with your right hand, and *vice versa*.

Rules even more complicated are proposed, especially by Continental authors. Some go to the extent of determining the choice of hand in every case by the position of the child. The fallacy and uselessness of these rules are sufficiently evident from the disagreement among different teachers as to which hand to choose under the same positions. Rules, moreover, which postulate an exact knowledge of the child's position are inapplicable in practice, because this diagnosis is often impossible until a hand has been passed into the uterus; and it is certainly not desirable to pass one hand in first to find out which you ought to use, at the risk of having to begin again, and to pass in the other.

The better and simpler rule is this: *In all dorso-anterior positions, lay the patient on her left side; pass your left hand into the uterus—it will pass most easily along the curve of the sacrum and the child's abdomen; your right hand is passed between the mother's thighs to support the uterus externally.*

In the case of abdomino-anterior positions, lay the patient on her back, and you may introduce your right hand, using the left hand to support the uterus externally. If the patient is supported in lithotomy position, you can thus manipulate without straining or twisting your arms or body. But it is equally easy to use the left hand internally if the patient is on her back, so that the exception is only indicated to suit those who have more skill and confidence with the right hand.

We will first take a dorso-anterior position. Introduce your left hand into the vagina, along the inside of the child's arm. The passage of the brim, filled with the child's shoulder, is often difficult. Proceed gently, stopping when the pains come on. At the same time support the uterus externally with your right hand. Sometimes you may facilitate the passage of the brim by applying the palm of the right hand in the groin, so as to get below the head and to push it up. This will lift the shoulder a little out of the brim. Or you may practise a manœuvre attributed to Von Deutsch, but which has been practised by Leveret. This consists in seizing the presenting shoulder or side of the chest by the inside hand, lifting it up and forwards, so as to make the body roll over a little on its long axis. This may be aided by pressure in the opposite direction by the outside hand on the fundus uteri, getting help from the bi-polar principle.

Sometimes advantage is to be gained by placing the patient on her elbows and knees. In this position you are favored by gravity, for the weight of the fetus and uterus tends to draw the impacted shoulder out of the brim.

The brim being cleared, your hand passes onwards into the cavity of the uterus. This often excites spasmodic contraction, which cramps the hand, and impedes its working. Spread the hand out flat, and let it rest until the contraction is subdued. In your progress you must pass the umbilicus, or a loop of umbilical cord will fall in your way. Take the opportunity of feeling it to ascertain if it pulsates. You thus acquire knowledge as to the child's life. But you must not despair of delivering a live child because the cord does not pulsate. I have several times had the satisfaction of seeing a live child born where I could feel no pulsation in utero. You are now near the arm and hand. They are very apt to perplex. Keep, therefore, well in your mind's eye the differences between knee and elbow, hand and foot, so that you may interpret correctly the sensations transmitted by your fingers from the parts you are touching.

At the umbilicus you are close to the knees. The feet are some way off at the fundus of the uterus applied to the child's breech.

What part of the child will you seize? It is still not uncommon to teach that the feet should be grasped. You will see pictures copied from one textbook to another, representing this very unscientific proceeding. There ought to be some good reason for going past the knees to the feet, which are further off and more difficult to get at. Now, I know of no reasons but bad ones for taking this additional trouble. You can turn the child much more easily and completely by seizing one knee. Dr. Radford insists upon seizing one foot only for the following reason: The child's life is more frequently preserved where the breech presents than where the feet come down first. A half-breech is also safer than cases where both feet come down. The dilatation of the cervix is better done by the half-breech. The circumference of the breech, as in breech presentations, is from twelve to thirteen and a half inches, nearly the same as that of the head; the circumference of the half-breech, one leg being down, is eleven to twelve and a half inches; whilst the circumference of the hips, both legs being down, is only ten to eleven and a half inches.

But a knee is even better than a foot. You determine, then, to seize *one* knee; which will you choose? The proper one is that which is furthest. The reasons are admirably expressed by Professor Simpson. We have a dorso-anterior position—the right arm and shoulder are downmost—these parts have to be lifted up out of the brim. How can this be best done? Clearly by pulling down the *opposite* knee, which representing the opposite pole, cannot be moved without directly acting upon the presenting shoulder. If the opposite knee be drawn down, and supposing the child to be alive, or so recently dead that the resiliency of its spine is intact, the shoulder must rise, and version will be complete, or nearly so. But if both feet are seized, or only the foot of the same side as the presenting arm, version can hardly be complete, and will, perhaps, fail altogether.

ART. 248.—*The Best Methods of Expediting Natural Labors.*

By W. H. DAVIES, M. D.

(California Medical Gazette, July.)

The agencies at our command for expediting natural labors, Dr. Davies classes as remedial and operative. Of the former, ergot, opium, tartar emetic, and borax are highly esteemed; while of the latter, mechanical dilatation, the warm water douche, scarification of the cervix, venesection, &c., are each applicable under certain circumstances. First among the remedial agents that has long been held in high repute stands ergot. Borax has been found in Germany of great use, and when combined with ergot is sometimes satisfactory in its action. Opium in many cases is a powerful uterine stimulant, and has the merit of being a safe one; but the best effects in the majority of cases will be obtained from the judicious use of tartar emetic. This remedy will always be found of the greatest service when the os is dry, hot and rigid, while at the same time the pains are severe and regular, but producing no advance of the head. Given in doses of from one-sixth to one-eighth every fifteen minutes until nausea and vomiting are produced, it will rarely, Dr. Davies says, be found to fail in producing free dilatation of the os, copious mucous discharge, and regular effective pains. Of course, cases will sometimes occur where its use is contra-indicated, but for general service we possess no remedial agent so steadily reliable. Of all the operative methods, none so recommend themselves to Dr. Davies's mind, as most generally safe and effective, as the warm cervical douche and Dr. Barnes's water-bags.

ART. 249.—*On the Indications presented by Faulty Conditions of the Pelvis.*

By Professor DEPAUL.

(Gazette Hebdomadaire, No. 27, 1868.)

The inconveniences and dangers which are associated with the existence of an abnormally large pelvis are almost completely withdrawn, during the course of pregnancy, from the influence of any active measures. Relative repose and the use of an abdominal girdle are almost the sole means that can be recommended. But during delivery they may be prevented by opposing a too rapid termination of labor. With this idea one ought, from the first manifestation of the pains, to recommend the woman to keep in the horizontal position, and not to do anything that might favor the return of the uterine contractions; that is, to abstain as much as possible from all movements tending to bring about expulsion. Whenever, in spite of these precautions, the labor proceeds rapidly, a too sudden progression of the fœtus should be opposed by the hand and fingers. In the same way one may remedy the sinking of the inferior segment of the uterus, in cases where there is a tendency for this part to come down through the orifice of the vulva.

As will be readily anticipated, the indications with relation to contractions of the pelvis are of much greater importance than the preceding, by reason of the frequency and much greater gravity of the symptoms set up by these osseous lesions. Unfortunately surgery is still powerless in remedying long-standing malformations of the pelvis, so that the treatment of these conditions is essentially prophylactic, and consists in preventing, as much as possible, their development. It is with this aim that every rachitic infant ought to be kept—particularly if it be a female—in the horizontal position, so that the lower limbs and pelvis may not be influenced by the weight of the upper part of the body. It is only gradually, and as the bones acquire more consistency and solidity, that the patient can be allowed to walk and to maintain the vertical or seated position. Notwithstanding the actual inconvenience resulting from

too prolonged repose, the remote dangers which result in cases of little girls, from considerable contraction of the pelvis, are so serious, that it is generally advantageous to adopt the practice just recommended; that is, to prescribe the horizontal position during the whole time when the bones remain flexible, feeble, and susceptible of undergoing deformity under the influence of a certain amount of pressure.

With regard to delivery, narrowing of the pelvis presents varying indications according to its degree, its seat, its nature, and the many circumstances accompanying it. If the case is one, for example, of contraction from osteomalacia, the employment of the forceps or version might be indicated; although it would be necessary to have recourse to some other operation, supposing the case to be one of a rickety pelvis. In osteomalacia the bones often retain a suppleness and flexibility which they do not present when rickets has been the cause of the faulty conformation. In the obliquely oval pelvis the foetus may be readily extracted by version, when it would be impossible to do this with the forceps. This result is explained by the favorable position of the child's head, which corresponds, in the one case, by its greater diameter to the greater diameter of the pelvis; whilst in the other its largest part is applied to the most contracted portion of the canal.

Among the contractions of a rachitic origin, those which are seated in the inferior opening do not rigorously indicate the same practice as those involving the abdominal opening. Finally, in similar conditions of faulty conformations, that is to say, when they seem to resemble one another with regard to seat, nature, and the configuration of the contraction; the more or less advanced stage of pregnancy, variations in the size of the foetus, its state of life or death, the presentation, and the more or less regular position, the degree of reducibility of the head, and also on the part of the mother, the more or less powerful and sustained contractions of the uterus, the more or less energetic efforts of expulsion, a variable inclination of the pelvis, and a greater or less amount of laxity of the symptoms, are so many circumstances which may change the results of labor to such a degree that the indications derived from pelvic contractions are themselves susceptible of considerable modification. One sees, then, that in delivery faulty conformation forms but one of the elements in the problem, and that the practical indications in connection with it are very subject to variations. Without doubt, the difficulties of labor generally bear relation to the extent of the osseous deformity; but what it is intended to assert is, that to this rule there are exceptions.

Professor Depaul has recently observed a proof of these assertions in a case where a foetus of seven and a half months, whose bi-parietal diameter measured eight centimetres, was made to traverse, by the aid of a simple application of the forceps, the inlet of the pelvis, which measured not more than six and a half centimetres in its sacro-pubic diameter. This infant was born living, and fifteen days after its birth was in full health. Facts of this kind, which have been reported by Baudelocque, Martin of Lyons, and others, are well known, though it is unnecessary to recall them. If such examples are rare, by reason of the great relaxation which the head has had to undergo before traversing the contracted canal, it is not so when the narrowing is less marked, for then the exceptions become pretty frequent. The question, then, of the obstetrical indications relating to contractions of the pelvis is a very complicated one, and its solution consequently appertains much more to distocia in general, than it does to the exclusive study of the vices of conformation of the pelvis itself. On this account Professor Depaul confines himself, in his Memoir, to adding a very summary exposition of the most essential indications that may be offered by contractions of the pelvis, either during pregnancy or in the course of labor.

Two very different conditions may be presented. In one, the female who is the subject of faulty conformation of the pelvis has reached the period of pregnancy when the interference of the practitioner is required. In the other, several months have to intervene. Professor Depaul, in his subsequent remarks, deals particularly with faulty conformations resulting from rickets, which affect especially the superior opening of the pelvis.

1. Pregnancy at full term, or very nearly so. It is convenient to establish three great divisions:—

(a) When the pelvis is *at least nine centimetres* in its antero-posterior diameter. If the head be presented when the dilatation of the os is complete, and the membranes are ruptured it is necessary to keep the parts open during the uterine contractions, and to wait for some hours. If the action of the uterus seems to be feeble, one may attempt to increase it by a small dose of ergot; and in all cases it is necessary to pay careful attention to the foetal circulation, and to intervene more or less quickly with the forceps, according to the results of auscultation.

If there is a tendency for the face to present, the course to pursue is always the same as that indicated by an anterior mental presentation; but if the chin be directed backwards, and it becomes necessary to act, attempts should be made to move the head, and to convert the face presentation into one of the vertex. In cases of presentation of the pelvic extremity, there will be great indications for resorting to cephalic version by external manipulations at the commencement of labor, and before the membranes are ruptured. If this result cannot be obtained, it will be necessary to pay careful attention to the delivery of the trunk, and to the disengaging of the shoulders and head, which should be brought about as quickly as possible, for the interest of the infant.

But it is with presentation of the shoulder especially that efforts ought to be made for the purpose of bringing the head to the superior opening of the pelvis. It is necessary to act in good time, and if possible before the discharge of liquor amnii. Then, if it be necessary, the forceps might be applied. If the attempt be unsuccessful, nothing remains but pelvic version, and if this be impracticable, section of the neck, or some other proceeding of embryotomy, must be resorted to.

(b) In this division may be ranged all pelves between six and nine centimetres. Two cases may be presented: the infant has already succumbed before the practitioner is called to the woman, or its life is not yet in danger. With the first supposition, if the head be presented, labor may be allowed to proceed until there is complete dilatation; the membranes may then be ruptured, and the cranium perforated. This practice alone will sometimes be sufficient for allowing the descent of the head. If not, the forceps is generally applied if the pelvis approaches in size to nine centimetres; if the size approach the lower limit, six centimetres, the cephalotribe should be preferred.

With the second supposition, on the contrary—that is to say, when the infant is full of life—it is necessary, in order to appreciate properly the different cases, to make a subdivision, which will separate pelves which are at the least six, and at the most seven and a half centimetres in extent, from those in which the extent varies between the latter limit and nine centimetres. With a vertex presentation, complete dilatation, and ruptured membranes in the second instance, it would be proper to allow the natural efforts to proceed uninterrupted, so long as there is no injury threatened to the mother or child. Then the forceps should be applied, and if the first attempt be fruitless, be again repeatedly resorted to at intervals of one or several hours. This practice, which has been recommended by M. Dubois, has the advantage of saving at once the strength of the mother and the life of the child. Experience teaches that what one is unable to perform at a first attempt, becomes possible in certain cases after a second or third intervention. Besides this method, there is no other resource save expectation, or some severe proceeding which implies the death of the child. Professor Depaul is of opinion that the latter ought to be taken into serious consideration, and that conservative efforts ought to be made with very wide limits.

In presentation of the face, pelvic extremity, or trunk, the course to pursue will differ but slightly from that already traced out in paragraph (a). Only, the obstacle being much greater, we should, all other conditions being equal, expect more serious difficulties, and less happy results.

In pelves of seven and a half centimetres and more, and at least six centimetres, the chances of the infant living will necessarily be diminished, as the

lowest inferior limit is approached; the question is then presented of the Cæsarian operation, or embryotomy, the forceps having previously been employed to no purpose. In order to decide this point, Professor Depaul thinks that it is necessary to take into consideration the wish of the patient and her family, to whom the situation of things should be explained, without dissimulating in any way concerning the gravity of these two modes of intervention. But when the pelvis is nearer the superior than the inferior limit of size, M. Depaul asserts that he would act independently for the interest of the woman, and that after having made for that of the infant every conservative effort authorized by prudence and demanded by the value attached to its life, he would not hesitate to resort to craniotomy, or to some other proceeding of embryotomy, as the circumstances indicated.

(c) In this division are included cases of extreme narrowing of the pelvis, that is to say, those in which the distance between the pubis and the sacro-vertebral angle is not more than a few millimetres or six centimetres at the most.

Be the child living or dead, when the antero-posterior diameter of the abdominal passage is found to be four centimetres at the most, or below its extent, there can, Professor Depaul thinks, be no tergiversation. The only means of delivering the woman consists in the Cæsarian operation. A cruel resource, it must be allowed, and particularly so in those cases where the death of the child being known beforehand, no compensation is to be offered with regard to the very great dangers the woman has to go through.

But when the pelvis is not so contracted, and measures between four and six centimetres, Professor Depaul thinks that it is necessary before acting to inquire whether the child be dead or living. In the former case, he would not readily decide upon the Cæsarian operation, but would give the preference to embryotomy in spite of its difficulties and actual dangers. In the second case, of a living child, he would, relying on the almost complete certainty of removing a child living and viable, hold himself authorized in submitting the woman to the Cæsarian operation, taking precautions to place her under the most favorable conditions for assuring a successful result.

2. The second class is that of cases in which the woman has not reached the full term of pregnancy.

When the subject of a contracted pelvis requires medical advice whilst she has to pass over several months before attaining the full term of her pregnancy, the resources of the obstetrician are considerably extended, and fresh indications arise which one is happy in being able to fulfil. These are indicated by Professor Depaul as follows, the three divisions previously established being again followed.

(a) If the contraction of the superior passage be between nine and eleven centimetres, it is advisable, Professor Depaul thinks, to allow the pregnancy to proceed until the full term, particularly if the woman be a primipara, and nothing can be learnt as to the probable weight of the child. The uterine contractions will in most cases readily overcome any obstacles, and if not, a simple application of the forceps will generally be sufficient. But if it has been proved by previous pregnancies that the woman is unfortunate in conceiving children of a large size, it would be better to anticipate by two or three weeks the term of delivery, or to intervene at an early period of pregnancy by subjecting her to a lowering regimen, and performing several venesections, a method which has been frequently followed in Professor Depaul's practice by good results.

(b) Pelves which correspond to the second division (between six and nine centimetres) necessitate the employment of the latter means in a much more imperious manner. The success of artificial premature delivery is no longer doubted at the present day. This modern conquest of the obstetric art, which at first was not naturalized in France without some difficulty, is not accepted by all. It is in those cases particularly where the contraction is between seven and nine centimetres that its application is most useful. The most common rachitic contractions oscillating between these two limits supply pretty numerous opportunities for its application. The obstetrician of course acts

at a sooner or later period, according to the greater or lesser amount of contraction.

The method of a lowering regimen combined with blood-letting, when vigorously carried out at the fourth or fifth month of pregnancy, may allow us to wait until the normal termination of pregnancy, provided the antero-posterior diameter be at least eight centimetres. Below this limit it may still be of service by enabling us to delay bringing on labor, and so to make more sure of the viability of the child. It has been proposed to moderate the development of the child by subjecting the mother to a treatment with iodide of potassium. Professor Depaul has had no personal experience of this treatment, and can give no opinion concerning its real value. Conclusive facts are still wanting, and it is to be feared that the results of experience are not conformable to those anticipated by theory.

(c) The most delicate and most difficult questions for consideration, are presented with pelves of the third division, by those in which the sacro-pubic diameter is not more than six centimetres. If the pregnancy be allowed to proceed until the full term, no other resource remains but the Cæsarian operation, which is almost equivalent, at least in great centres of population, to the death of the woman. If the course of the pregnancy be arrested at the end of the seventh month, or during the eighth, the obstetrician will almost certainly fail in attaining the double aim intended by the provocation of delivery, for in addition to the almost inevitable death of the child during the necessary manœuvres for its extraction, the mother herself will also run the greatest danger, and often lose her life.

What resource then remains in cases of this kind? Professor Depaul thinks there is but one: to sacrifice the life of the child by procuring abortion at an early period. He knows that this question may be discussed on grounds of morality, religion, and science, and answered in different ways according to the principles which are placed in the foreground. But after a long and serious reflection, Professor Depaul has not hesitated to do for others in certain cases, that which he would desire to be done for his own wife or daughters, were they placed in conditions similar to those now discussed.

In certain cases the pelvis is narrowed by the presence of a tumor developed or situated in its cavity. The indications to be fulfilled for the treatment of these obstructions will vary with numerous circumstances. If the case be one of a cystic growth, as of the ovary, for example, it is necessary to know that Nature has great resources, and that the tumor after having occupied, for a longer or shorter period, the upper passage and part of the cavity of the pelvis, may at last be moved and displaced by the progressive development of the uterus. Professor Depaul has observed several cases in which this fortunate termination was noticed. But this does not always occur; the obstruction may persist, and necessitate some course of action. It is then easy to intervene with a simple plan of treatment, which consists in emptying the cyst or cysts by making a puncture, either by the abdomen, or by the vagina, or even in some cases by the rectum.

It may also be necessary to have recourse to puncturing for certain cysts which are sometimes observed in the anterior wall of the vagina, near the entrance of the canal, or in the recto-vaginal partition. These, however, are rarely of such a size as to form any serious obstacle.

Obstructions from fibrous tumors are much more serious. The growths which spring from the lower part of the uterus are especially dangerous, since they are developed into considerable proportions during the course of the pregnancy; they then descend into the pelvic excavation, become moulded to all the irregularities, and locked in such a manner that they cannot be elevated or forced away. When one is called to a case of this kind, with pregnancy at its full term, it is evident that the Cæsarian operation alone will render delivery possible.

Besides the fibrous tumors developed on the outer part of the uterus and in connection with the peritoneum, to which the preceding remarks refer, there are others which, following a different course, and after having escaped from the interior of the uterus, to which they are still attached by a pedicle, take up

a position in the vagina, and occupy the pelvic cavity to a greater or less extent. In these cases the gravity of the situation is not so great. It is no longer a question of a Caesarian operation, but rather of extirpation of the tumor when it forms any serious obstacle.

These fibrous bodies are sometimes recognized long before the full term of pregnancy, and may then become the source of special indications. Some years back, Professor Depaul was called in to visit a young woman who had attained the tenth week of her first pregnancy, and who was suffering from formidable symptoms which threatened her life (arrest of feces and urine, tenesmus, and incessant fruitless efforts at expulsion). On examination a fibrous tumor of the uterus was recognized engaged to the pelvis, which was so completely filled up that it was impossible to pass a gum elastic sound into the rectum. The uterus was much elongated, and pushed up into the abdominal cavity; its elevated neck was only reached after great difficulty through a narrow space which existed along the rectum. Professor Depaul, having assured himself after a very careful examination that the life of the woman was in danger, advised artificial abortion. He thought, however, that the patient might wait for two or three days, and returned home. Two hours had scarcely elapsed before he was recalled by the family and medical attendants of the patient. The situation was extremely critical, and death imminent.

A sound was introduced into the cavity of the uterus, and a piece of the ovum removed. Labor quickly declared itself, and some hours afterwards the foetus was expelled, completely flattened. The bad symptoms were almost immediately relieved, and the patient restored. Some months later she was again examined, and the tumor was felt considerably reduced in size—in fact, no larger than a small apple; its origin was close to the neck of the uterus, above the vaginal insertion.

It is almost unnecessary to state that under other circumstances tumors of this kind, and also some osseous and fibrous growths connected with the bones of the pelvis, might furnish indications for premature delivery. A very large vesical calculus might necessitate a previous extraction.

ART. 250.—*On the Decidua Menstrualis.*

By Dr. HAUSMANN, of Berlin.

(*Monatsschrift f. Geburtskunde*, xxxi. 1868; and *Schmidt's Jahrbücher*, No. 6, 1868.)

1. The affection of women hitherto conceived to be a disturbance of menstruation, and designated dysmenorrhœa membranacea, is in all cases consecutive to sexual intercourse, and therefore never occurs in very young females.

2. The affection in question is nothing more than an abortion of the first few days or weeks, in which, after deficiency or destruction of the ovum, the uterine mucous membrane forming the decidua is expelled with pains.

3. The abortion and consecutive expulsion generally occur at a menstrual period, and may thus readily lead to a mistake of the true nature of things; but between the attacks there may be irregular and often prolonged intervals in the course of which menstruation is normal; the nature of the causal disturbances is then very clear.

4. Expulsion of the decidua generally follows in from six to twenty-four hours after the commencement of the bleeding, and sometimes even later; this process is preceded by pains, which may be frequently repeated when the abortion is thrown off in several pieces.

5. The various causes of this abortion and the consecutive expulsion of the decidua are still unknown, but all have probably the common result of producing a premature destruction of the ovum.

6. The so-called decidua menstrualis frequently occurs but once; sometimes it comes on during many years, and may, so long as the exciting cause persists, be presented at irregular intervals until the cessation of menstruation.

7. The catarrh of the uterine mucous membrane, the chronic metritis, and

the hysterical attacks observed in the subjects of dysmenorrhœa membranacea are generally the results of this last affection.

8. The treatment divides itself into that proper for each instance of abortion, and that of the affection itself: the first is to be carried out according to the recognized rules; the latter consists in removing any prominent disease of the womb, and in enforcing an abstinence from sexual intercourse for several months.

ART. 251.—*A Case of Puerperal Peritonitis Arrested at its Commencement by the Employment of Uterine Aspiration.*

By M. D. GUERIN.

(*Gazette Hebdomadaire*, No. 39, 1868.)

The following report was presented to the Académie de Médecine:—

"At the meeting of the 1st of June, 1868, I had the honor of expounding before the Academy, on the occasion of a discussion of puerperal fever, views which differed considerably from those which had been previously taught concerning the physiological mechanism of the puerperal peritonitis.

"Starting from the fact, not then noticed, of the failure of uterine retraction in its relations with the development of this cruel affection of lying-in women, I have looked upon this as the starting-point, and the essential condition of puerperal peritonitis. The uterine wound—the utero-placental wound I called it at that time—may be considered in turns as an exposed and as a closed wound, as the uterus either remains open and its placental surface exposed, or as this organ, returning within itself, contracts and brings together the anfractuosités of its inner surface. In the former case, the uterine wound is subjected to all the consequences of an exposed raw surface: it becomes inflamed and suppurates. In the second case, on the contrary, it benefits from all the advantages of a wound withdrawn from the contact of air: it cicatrizes and is immediately organized. I added that the exposed utero-placental wound, in consequence of the anfractuous and confined condition of the uterine surface, is aggravated by all the conditions and complications attending a putrefying cloaca, which communicates on the one hand with the external air, and on the other with the peritoneal cavity which attracts its contents.

"The starting-point of the malady having been thus determined, it became easy to understand how the putrefying material inclosed within the uterus, and the morbid changes which these engender by their presence, are propagated along the Fallopian tubes as far as the peritoneal cavity. The presence of this material, made out by myself on several occasions in the tubes, the inner surfaces of which were not changed, and the deposit of this material at the punctured extremity, removed all doubt as to the origin and migration of the morbid element, and the course of union established between the uterine and peritoneal cavities.

"There is no necessity now to recall to mind all the circumstances which concur in establishing the theory deduced from this collection of facts, nor to point out their connection with all the symptoms manifested in the course of puerperal peritonitis, such as the tainted odor of the lochial discharges, their suppression, the pains in the groin and along the course of the Fallopian tubes, the meteorism and abdominal tenderness, the partial or complete suppuration of the peritoneal cavity, in connection with the introduction, migration, and the deposit of material from the uterus; finally, the constant connection of the uterine deposit with the peritoneal deposit supplied by the former. All these facts and particulars, constituting as it were the formula of puerperal peritonitis, require only to be recalled briefly here in order that the indication which I have drawn from them may be comprehended, and also the system of apparatus which I have devised for the purpose of fulfilling this. The indication, reduced to its mechanical action, consists in impressing upon the putrefied uterine fluids a retrograde movement, by means of a system of aspiration which I have established for the treatment of all exposed wounds, and which the peculiar conditions

of the utero-placental wound have obliged me to specialize. These conditions are sufficiently exceptional to merit being brought forward in evidence, either as elements of the problem to be resolved, or as witnesses of the efficacious action of the method.

"When the uterine cavity, in consequence of the non-retraction of the womb, forms an empty space communicating with the atmosphere, a column of air is necessarily introduced therein, and fills up the space which is not occupied by the uterine fluids. This column of air, moreover, exerts on all points of the internal surface of the organ, and also upon the materials contained within it, a pressure equal to the barometrical pressure. Also, as I have already indicated, the uterine cavity is in constant communication with the peritoneal cavity. But, as I remarked some time back, the peritoneal cavity, like all other serous cavities, undergoes variations in size, whence variations in its pressure upon the bodies it circumscribes. In the abdominal cavity these changes in size are under the influence of the respiratory movements; at each inspiration relative vacua are formed between the abdominal organs and the walls inclosing them, which produce at the orifices of the Fallopian tubes temporary actions of aspiration which are favored by the permanent pressure of the column of external air upon the open and exposed internal surface of the uterus. Under the control of this condition of things, it is impossible not to recognize the utero-abdominal current which can be neutralized only by setting up a current in an inverse direction. But the effect of this current would be the aspiration of fluids introduced into the peritoneal cavity, and the gases which have been developed there, and consequently the retraction of the abdominal walls, and the provocation of the womb to withdraw into itself by exciting its contraction; this last being favored by the removal of the pressure exerted on the internal surface. That this retrograde action may be exercised, it is necessary to comprehend that the external orifice of the vagina and the vaginal canal might by their occlusion close the passage to the external air, which without this precaution would seek from without inwards to fill up the void produced by the aspiration. This then was the indispensable indication to fulfil in order to render possible the practical working of my method. But all these difficulties have been overcome, and all the effects sought for have been obtained by the apparatus devised by myself, and applied in the following case:—

"Madame C— was delivered, with assistance, on Monday, the 10th of August last, at two o'clock in the morning, after one-half hour only of pronounced pains. This was her second lying-in. Delivery was to all appearances completed at once. Monday and the following day were passed without any bad symptoms. The lochia flowed away, but a portion of inodorous membrane, fifteen centimetres in length, was found in the discharge. On the following day the discharges were regular, and without odor. On Thursday, the 13th, fresh portions of ill-smelling membrane were expelled, and this was repeated on the two following days.

"On Monday, August 17, there was shivering, and also arrest of the lochia, which had continued up to that time to give off a bad odor.

"On the following day, the 18th, the shivering was repeated at seven o'clock in the evening. The lochial discharge had reappeared twice during the day, but smelt badly.

"On the 19th, there was complete suppression of the lochia, considerable tumefaction of the belly, pains in the groins, the middle of the abdomen, and the kidneys, the whole accompanied with renewed rigors. Uterine injections had been administered for two days. The patient was seen for the first time by M. Guerin at half-past four. The uterus was then seated at a distance of about two fingers' breadth below the umbilicus. The pulse was low, much accelerated, and scarcely perceptible. There was no doubt that the collection of symptoms indicated very decidedly the commencement of puerperal peritonitis. The patient was then placed in a warm bath—precaution being taken to establish a free communication with the womb by means of a large canula placed in the vagina. Uterine aspiration was next practised by means of the following apparatus, to which M. Guerin has given the name of 'aspirateur uterin.' This apparatus is composed of three principal parts:—

"1. A strong canula of vulcanized caoutchouc, about two centimetres in diameter and twenty centimetres in length, and furnished with lateral openings; this is intended to be passed to the bottom of the vagina.

"2. Two caoutchouc bottles placed over the canula, and capable of being filled with air by insufflation; these two bottles, movable along the axis of the canula, serve as vaginal obstructors, one being placed in the interior, the other at the orifice of the canal.

"3. An arrangement for aspiration, composed of a long conducting tube, furnished with a stopcock; part of this tube is composed of glass, in order to permit of observation of the passage of aspired material. This conducting tube opens into a glass bottle, intended for the reception of the same material, and connected on the other hand with a suction ball.

"The apparatus having been applied and disposed so as to set up an aspiratory action in the cavity of the vagina, the gas and air contained in this cavity was drawn out. The external orifice of the tube, previously closed by the cock, was immediately placed in communication with the tube of an irrigateur *Equusier* filled with water, suspending carbolic acid. The cock being then opened, the water from the irrigator was forced into the vaginal cavity. At the end of two minutes the vaginal tube was put into communication with the aspirator, which immediately withdrew into the large bottle the injected fluid, slightly darkened, and containing a considerable quantity of gas. Some more water, containing carbolic acid, was again introduced, and at the end of five minutes withdrawn as before into the bottle. This time the injection was mixed with light red purulent matter, suspending clots of a tainted odor. At the same time that these phenomena were brought about, the belly became reduced almost to its normal size. From this moment there was a continuous and moderate discharge of lochial fluid of the usual color and without any remarkable odor. The trunk of the patient was surrounded by a body bandage, exerting a moderate pressure upon the abdomen.

"To the rigors from which the patient had suffered, succeeded great heat, followed by much perspiration. The pulse rose suddenly; fever and delirium lasted during the night. Towards the morning the patient slept; and when she awoke the abdomen was found reduced in size, and the lochia flowing freely, and free from odor; the pulse was scarcely a febrile one, and the patient demanded some food.

"The patient was now well nourished. Baths and vaginal injections were the only means employed to remove the remaining abdominal tenderness. On the fourth day after the application of the apparatus, everything was going on well; the uterus could hardly be felt above the pubis; the patient took and digested her food, and slept well; the lacteal secretion, which had been arrested before the commencement of the treatment, was now sufficiently abundant for the alimantation of her infant.

"Since this epoch Madame C—— has continued to enjoy perfect health."

ART. 252.—*Obstruction to Delivery caused by Dorsal Displacement of the Arm.*

By ANGUS MACDONALD.

(*Edinburgh Medical Journal*, August, 1868.)

Dr. Angus Macdonald read before the Edinburgh Obstetrical Society two cases of this kind. Sir James Y. Simpson was the first to point out the true nature of these cases, and Dr. Macdonald believes with that eminent practitioner, that such cases are not nearly so rare as is commonly believed. He is also "strongly inclined to believe," with him, "that minor displacements of the arm are very frequently the cause of lesser degrees of obstruction to delivery. On Tuesday eight days (19th of May), I was hurriedly sent for by a student to see a patient, a multipara, who had been some ten hours in the second stage of labor, and on my arrival, feeling convinced that the natural efforts would suffice to effect delivery, I merely waited a little till this took place. But as the head

was advancing towards the outlet I felt the fingers of the right arm firmly impacted against the left side of the neck between the left ear and shoulder; and on keeping the hand in this position till labor was completed. I found that the right arm was crossed over the upper part of the chest, and the forearm, being obliquely impacted between the left ear and shoulder, the head and arm engaged in the pelvis at the same time, and thus accounted for the delay.

"Sir James, besides, states that he believes that the occurrence of this accident undetected explains many cases of difficult labor in which no disproportion existed between the head and the pelvis, and wherein the uterine pains were normal, more especially referring to a case of Dr. Campbell's in which he had to perform craniotomy after failing to deliver by forceps.

"As to the difficulty of the accident and the obstruction presented by it, either to delivery by forceps or to natural delivery, the two cases I have just read are sufficiently conclusive. I have no hesitation in saying, that if such a case is allowed to go on unaided, judging from the extreme difficulty to cause the head to advance by traction, the patient is sure to die from rupture of the uterus or die undelivered.

"It seems to me also that, so far at least as the child is concerned, to attempt to deliver by forceps is equally objectionable, though not nearly so dangerous to the mother. The accident is, however, exceedingly easily put right if detected in time, and may be effected in either of two ways, viz., by podalic version, as Sir James Y. Simpson and Mr. Jardine Murray effected delivery in the case recorded by them, or by bringing down the arm by the side of the head, and converting it into a case of head and arm. This is what Sir James did first in his case, though, to quicken the labor, as his patient was very much exhausted and the pains weak, he had afterwards recourse to podalic version. I consider that, had it not been that, in my second case, the patient was so much exhausted from hemorrhage, &c., and that the pains were somewhat weak, the labor would have been quickly terminated by the natural expulsive efforts, it was so easily effected by means of forceps. But the difficult point in regard to the obstruction is the diagnosis; the difficulty in this respect is, however, infinitely diminished by the ease with which such manipulations as are necessary can be effected under chloroform—an advantage which is clearly pointed out by its illustrious discoverer. Once the diagnosis is made out, all difficulty is over, and I can recommend no surer means of avoiding mistakes in such and similar cases, than a rule of practice recommended to me by Dr. Andrew Inglis, and that is, whenever a case is unnaturally prolonged and you can detect no cause, and the cervix is well dilated, chloroform the patient deeply, and pass the hand all round the head to see that no portion is impacted upon, or projecting unnaturally against, any part of the pelvis.

"I have never failed to regret exceedingly the disastrous result of my first case, and feel certain that the life of that child could have been saved had we only had forethought to suspect that this uncommon lesion was present. But such cases are peculiarly deceiving, they seem so natural in every respect. There seems nothing in such cases to warrant the operation of craniotomy, though this, among other means, has been recommended as the proper treatment."

Dr. Keiller regarded the chloroforming the patient in all doubtful cases, and then introducing the hand to ascertain the true state of matters, as of great importance, and he had long been in the habit of recommending this plan to his students. It is the only method by which an accurate diagnosis can be made. The fact of some obstruction taking place in the progress of labor in women who had previously been delivered without difficulty should excite suspicion. In such cases as those related by Dr. Macdonald, the child's arm is generally bent at the back of the neck, and there is great difficulty in bringing it down. Dr. Keiller preferred turning to the forceps in these cases. Delay is fraught with great danger to the mother and child.

Dr. Burn said he had repeatedly met with similar cases, but had never experienced any great difficulty in getting the head through with the forceps. In such cases, he thought the fact of the head receding suddenly after a pain was a good diagnostic sign.

ART. 253.—*Curious Case of Spontaneous Version.*

By Dr. PAUL MAUNOIR, M. D., of Geneva.

(Medical Times and Gazette, November 28.)

The following interesting case of self-evolution—or, as it may perhaps better be called, self-turning—is related by Dr. Maunoir:—

"I was called a few weeks ago to a woman, thirty-six years old, primipara, at full term after a favorable pregnancy. The labor began two days previously, but with very slight pains, very distant at first, and more frequent during the last night, though remarkably mild. As the real expulsive pains were wanting, the midwife sent for help at twelve in the day. I arrived twenty minutes after, and found the waters escaped just ten minutes, only about a full glass of viscous greenish fluid on the floor, the woman being up, and the surplus spotting the bed, but in a very small quantity. The first truly expulsive pain was felt at the rupture of the membranes. I was informed that the os uteri, very high in the pelvis, and still closed yesterday night, began to descend and dilate slowly after six this morning without the ordinary pains. The midwife felt the head presenting.

"When I touched I ascertained the head was at the brim of the pelvis, the anterior fontanel towards the left sacro-iliac symphysis, and very easily reached with the finger: the posterior on the right ilio-pubic symphysis, above the edge of the brim, so that the bregma rather than the point of the head was presenting. Between the fontanels a mere crowning of the scalp instead of the ordinary tumor. My finger was then covered with glutinous fluid and plenty of sebaceous matter.

"As the foetus had not moved at all since nine in the morning, I believed it was dead, but I thought the labor would end naturally, and went away.

"When I came back—one hour and a half afterwards—the foetus was just extracted; it had been pushed out almost without pain; the breech foremost, the back in front, the legs close on the abdomen, and the head had to be disengaged with a little difficulty. A large quantity of clots and blood poured out with the foetus. The child was dead; no blood tumor; the lips thin and violet; the trunk covered with violet spots; the funis thin and quite pale. It was impossible to revive it. The placenta looked normal. Before I pulled it out there was much bleeding, and even after its extraction I had difficulty to stop the hemorrhage. Happily the pains then began strongly, and the uterus contracted."

ART. 254.—*Induction of Premature Labor.*

By JOHN HALL DAVIS, M. D., F.R.C.P., Obstetric Physician and Lecturer on Midwifery and the Diseases of Women and Children at the Middlesex Hospital.

(Parturition and its Difficulties.)

Of the different modes of inducing premature labor, Dr. Davis is disposed, upon the whole, where we have the choice, to recommend the use of the caoutchouc dilator, as a preferable plan to any other; using different sizes, when necessary, till, by their means, full dilatation of the mouth of the womb has been obtained.

Should the vagina be rigid and narrow, Dr. Davis widens it also by a separate dilator. It is far preferable to sponge tents for the purpose, which become exceedingly offensive.

The stilet, the author adds, may subsequently be resorted to, if pains do not supervene; but this will rarely be required.

ART. 255.—*Post Partum Paraplegia.*

By RICHARD J. HALTON, L.R.C.S.I., L.R.C.P.E.

(British Medical Journal, June 20.)

Mr. Halton places on record the subjoined case:—

"J. McM., shopkeeper, aged thirty, when I saw her on Nov. 23d, 1867, had been in labor for some hours with her fourth child. The funis was prolapsed, and the head rather tightly fixed in the pelvis. The pains were very slow and weak; her general aspect was spiritless; pulse small. I attempted to deliver by turning, as did also Dr. E. Kellett, of Kells, who saw the case with me; but in this we altogether failed. I then, the child being dead, performed craniotomy; and, after three hours of alternate effort, we succeeded in delivering the child. There was very little shock, which quickly passed off, and the patient went on very well until the tenth day, when she complained of being kept awake by a great pain in her back, and said something felt sore inside, as if the child's head hurt her during delivery. On examination, however, with the speculum, there was no discernible cause for it; the uterus and vagina looked perfectly natural; the pulse was quiet; the tongue clean; and the discharge slight and natural. I prescribed an opiate, which gave temporary relief; but the pain recurred, and in a day or two she lost the use of her lower limbs altogether, and was perfectly powerless from the hips down. I prescribed various remedies with but little benefit for a fortnight, when I ordered five-grain doses of iodide of potassium thrice daily, gradually increasing it to eight grains. In four days after she began this treatment there was a decided change for the better. In a fortnight she was able to move her limbs very well. For some reason she then omitted her medicine nearly a week; but, the pain and weakness of limbs recurring, she commenced it again; and, having persevered steadily this time, she was able to walk about quite well in three weeks."

ART. 256.—*Induction of Premature Labor: Resuscitation of Child.*

By H. V. BARNES, M.R.C.S., Liverpool.

(British Medical Journal, October 17.)

The following case is related by Mr. Barnes:—

"M. K., aged twenty-six, being in her fourth pregnancy, and having been delivered by myself on the three previous occasions with the greatest difficulty (twice by the long forceps, and the third time by craniotomy, effected by perforating through the root of the mouth, after the forceps and version had both failed), was advised by me to submit to the induction of labor at the eighth month. This was attempted by the injection of from ten or twelve ounces of warm water through an elastic male catheter introduced about three inches within the os, between the walls of the uterus and the membranes: the patient remaining in an inclining position for an hour or two, and then going about her duties. None of the injected water returned when the catheter was withdrawn, or subsequently. Nearly a fortnight elapsing without any result, I was about to repeat the operation, when, on the evening of July 28th, labor commenced three weeks before its time; and, on the morning of the 29th, I was fetched in haste, with a message that 'the waters had come away.' The water that came away, however, must have been that which had been injected; for the membranes were entire, and were only ruptured some time afterwards; when, finding the head would not enter the brim, I turned, and delivered with great ease."

"The child not making the slightest effort at breathing, I resorted to the Silvester method of artificial respiration, which I continued for ten minutes without any effect, and then adopted the Marshall Hall system for a similar period, and with the same result. I then inflated the lungs with my own breath,

and again resorted to artificial respiration by alternately compressing the chest and abdomen. This failing, I tried inflation once more, and once more the Silvester method. The heart had by this time apparently ceased to pulsate, and the whole surface of the body had become livid. Being determined, however, not to despair, though urged not to take any more trouble with a 'dead child,' I introduced a trachea-tube through the rima glottidis (which, from its direction, must have entered the left bronchial tube), and, blowing with some force, ejected from four to six drachms of fluid that must have been lodged in the trachea and bronchi. Resorting again to artificial respiration, my efforts were crowned in a short time with success; for the heart recommenced to beat; the surface of the body resumed its pink hue; and the chest began of itself to expand and contract. A smart slap on the back seemed to accelerate matters, and gave rise to a healthful hearty cry more than half an hour after birth."

ART. 257.—*A Novel Method of Resuscitation.*

By RICHARD J. HALTON, L.R.C.S.I., L.R.C.P.E.

(*British Medical Journal*, June 20.)

The following case is related by Mr. Halton:—

"I was sent for to see this case March 25th, 1868. It was one of twins, and the woman was delivered of one child before my arrival. I found the arm of the second child presenting, so I immediately turned and delivered. The passages being well relaxed since the previous birth, the operation took but a very few minutes; yet the child was born very weak, and there was no attempt at respiration. As there was still pulsation through the cord, I left the child attached while I tried slapping the gluteal region, and warm baths alternating with cold. This proving ineffectual, and the pulsation having ceased, I separated the child from its mother, and commenced artificial respiration by Marshall Hall's method (resorting to the baths still). This I persevered in steadily for an hour and a half, occasionally rubbing a weak solution of ammonia on the tongue, and sometimes diluted whisky, applying whisky to its stomach, and keeping the child, when not in the bath, wrapped in flannel on my lap in the atmosphere created by a large turf fire. All my efforts, however, seemed fruitless; and an occasional very faint attempt at inspiration, which was made at first, was fast disappearing, when the following expedient struck me, which I at once carried out in this way. I made four or five small incisions in the skin of the chest just sufficiently deep to go through the cuticle and wound the cutis, and into them I rubbed raw whisky; I was rewarded almost immediately by a pretty deep inspiration, which began to be repeated at shorter and shorter intervals until, at the end of half an hour, I had the satisfaction (and indeed relief, for I continued the ready method) of handing the child to its nurse, faintly crying, with its respiration completely established."

ART. 258.—*On the Influence exerted by the Number of the Pregnancy, and by the Age of the Woman, upon the Mortality accompanying Parturition.*

By J. MATTHEWS DUNCAN, A.M., M.D.

(*Dublin Quarterly Journal of Medical Science*, February.)

The following are the author's general conclusions:—

"1. The mortality of first labors is about twice the mortality of all subsequent labors taken together.

"2. The mortality from puerperal fever following first labors is about twice the mortality from puerperal fever following all subsequent labors taken together.

"3. As the number of a woman's labor increases above nine, the risk of death following labor increases with the number.

"4. As the number of a woman's labor increases above nine, the risk of death from puerperal fever following labor increases with the number.

"5. If a woman have a large family, she escapes extraordinary risk in surviving her first labor, to come again into extraordinary and increasing risk as she bears her ninth and subsequent children."

ART. 259.—On Hemorrhages with Placenta Prævia, and their Influence upon the Death of the Fœtus.

By Professor LEHMANN.

(*Nederl. Tijdschr.* i. 1868; and *Schmidt's Jahrbücher*, No. 9, 1868.)

It is known that bleeding occurs in connection with placenta prævia, caused by abnormal changes which the lowest segment of the womb sometimes undergoes during the last three months of pregnancy. According to the views of most modern accoucheurs, the flow of blood comes exclusively from the maternal portion of the placenta: since the capillaries of the foetal part of the placenta form a closed system, and do not anastomose with the maternal vessels. Hence the generally accepted statement that the fœtus loses no blood during hemorrhage from the mother, and that the cases of death and suspended animation, so often observed, are to be ascribed, not to anæmia or nutritive deficiency, but to asphyxia or suffocation. Professor Lehmann does not accept this view unconditionally; but he maintains that during bleeding from the maternal placenta the fœtus also can and must lose blood, inasmuch as the walls of the foetal capillaries in some cotyledons of the detached placenta undergo a greater or smaller amount of laceration, generally produced during digital exploration. But a minute anatomical examination of the placental tissue after hemorrhage will also prove that in reality the placental vessels of an after-birth, spontaneously separated under similar circumstances, are not in the same condition in the irregularly placed placenta, as they are in a placenta with a normal position. In the latter case the vessels of the placenta are not torn. If milk be injected by the umbilical artery into a fresh placenta which has been spontaneously expelled during the course of a regular labor, the placental mass will be much distended, and the milk will not flow away from its uterine surface—a proof that the foetal capillaries are uninjured. When this experiment is performed on a placenta with an abnormal seat of insertion—that is, on a placenta prævia—the milk, even when the placenta has been expelled directly after the birth of the child and in the same manner, will flow away by the side of the cotyledons, chiefly in those parts which have been forcibly disengaged. There must, therefore, in most cases of placenta prævia, be some conditions which bring about or favor this laceration of the vessels, and of these the most important one is the contact of the fingers with the after-birth during an internal examination. For, however cautiously an examination may be carried out, a slight bruising sufficient to cause laceration of the vessels is inevitable, and then the foetal blood readily enough trickles forth. A frequent occasion for injuries of the placenta is the practice of plugging the vagina, or some operative means for completing the labor. In this way may we account for the fact that children who have been brought into the world after hemorrhage resulting from placenta prævia, have an extremely anæmic appearance; and that they, when born in a state of suspended animation, are so rarely restored by artificial respiration; for it is known that suspended animation, when due to anæmia, is very seldom overcome. The anæmic condition of the body is demonstrated by a post-mortem examination. From the researches of Cohnheim it has also become more than probable, that hemorrhage may take place from the foetal placenta even without laceration of the capillaries, and merely by exudation of the blood through the walls of the vessels, since both red and white blood corpuscles can penetrate the intact wall of a vessel; of which fact one can be convinced by examining the mesentery and membrana nictitans of frogs. From these facts Professor Lehmann holds that those authors are in error who pronounce, without discrimination, that asphyxia or

suffocation is the special cause of the death or suspension of animation of the fœtus with placenta prævia.

The general opinion is, that by interruption of the circulation in the utero-placental vessels the passage of decarbonized blood from the placenta is interfered with, and that, as a result of this, premature intra-uterine respiration is set up, during which, as there is no air in the cavity of the uterus, fluids—namely, blood, mucus, and liquor amnii—are inspired into the trachea and bronchi. Suffocation of children has also been demonstrated by accumulations found in the internal organs, in the lungs, heart, liver, intestines, and also by ecchymoses in the serous membranes, as well as by the presence of liquor amnii and meconium in the bronchial ramifications.

But asphyxia is not the only cause of death or of suspended animation; apoplexy or anæmia may also give rise to these events. Not merely in the rare cases of rupture of the umbilical cord or its vessels during birth, but also in instances of placenta prævia, when there has been partial laceration of the vessels in the tissue of the after-birth, may the death or suspended animation of the fœtus be brought about through hemorrhage, anæmia, or nutritive deficiency, as was proved by post-mortem examination in the following cases: Hemorrhages from a badly ligatured umbilical cord, seem to prove that it does not require a very great loss of blood to bring about dangerous phenomena, or even to cause death. In a case reported by Dr. Hecker, of a child born dead after laceration of the placental vessels, great anæmia of the mucous membrane of the lips and trachea was met with; and, on the other hand, hyperæmia of the abdominal viscera, and the presence of meconium in the intestines. Professor Lehmann thinks further proof is required as to the explanation given by Pernice, that hemorrhage from placenta prævia results in anæmia of the womb and diminished force of the maternal heart; as a consequence of which the child is no longer supplied with a sufficient quantity of oxygenated blood.

CASE 1.—Frau V. was on September 9, 1867, in her sixth labor, the pregnancy having previously taken a regular course, when profuse hemorrhage suddenly occurred. This, after it had been arrested for some hours by plugging, again returned, and was so excessive as to induce syncope. The abdomen was of the normal size, and the uterus reached to a point about a hand's breadth above the umbilicus; the fetal heart-sounds could be heard distinctly on both sides of the abdomen. The os uteri was dilated to the extent of one inch; its margins were thick and elastic, and almost beyond reach. No part of the child could be felt, but the placenta was found covering the whole of the os. Recourse was at once had to forcible delivery; and as the head of the child was presented, turning was performed, and in the course of a few minutes extraction was accomplished. The child followed, immediately the after-birth, and the uterus then contracted favorably. The child was pretty well developed, and a male, but life was suspended, and the integument much blanched. It died after a few respirations. A post-mortem examination was not allowed. The presented portion of the placenta differed from the other parts in the tissue being strikingly pale, and of a softer consistence. The cotyledons existing at this part were separated from each other, and no longer covered by the thin decidua. There were small lacerations of the vessels, from which it was clear that bleeding must have taken place during the birth. The woman died three weeks later from continued fever with colliquative diarrhœa.

CASE 2.—A. E. W., thirty-two years of age, was, on November 27, 1867, in the eighth month of her first pregnancy, brought into the lying-in hospital on account of profuse hemorrhage. The abdomen was normal in appearance, but small; the fundus of the uterus could be felt about two fingers' breadth above the umbilicus; the fetal heart-sounds were distinctly audible on the right side; the vagina was moist and bloody; the neck of the uterus was about an inch and a half in length, thick and somewhat swollen; the os uteri admitted the point of the finger; the vaginal surface was thick and swollen. No part of the child could be felt presenting. The pulse and temperature of the patient were normal; and there were no pains. The woman was kept quiet, and in the horizontal position, and dilute sulphuric acid was administered internally. She remained pretty well for the rest of the day and the following night; but on

the next morning bleeding again came on, associated with back pains. The finger could be passed upwards through both the external and the internal os, and there touched the membranes, and detected at the upper margin of the os uteri, on the left side, a small fragment of placenta. The membranes were perforated by a uterine sound, whereupon the pains increased in power and frequency, but the bleeding still continued, until the child's head in the first vertex position was arrested at the pelvic inlet. At half-past three in the afternoon the child was expelled, and was immediately followed by the after-birth. The child—about seven months old, and a male—died after a few minutes. The lying-in progressed without any disturbance. Post-mortem examination of the child showed that anæmia had been the cause of death. The skin, and the lungs, heart, and all the other internal viscera, were extremely deficient in blood. No traces of inspired liquor amnii or meconium were found in the trachea or bronchi. On the uterine surface of the placenta could be distinguished some small, circumscribed, pale nodules, which were proved by microscopical examination to be chorionic tufts in a state of fatty degeneration. In other respects the placenta appeared very yellow, except in the part which had been detached from the womb before birth, and could be felt at the margin of the os. This part was covered by dark-colored and coagulated blood, and not lined as the other portions of the placenta with the fine epithelial layer of decidua penetrating between its lobes; several large and small vascular lacerations could be perceived even with the naked eye, and were rendered still more evident by milk injection passed into the umbilical artery.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 260.—*On Uterine Lameness.*

By GRAILY HEWITT, M. D., F.R.C.P., Professor in Midwifery in University College.

(*British Medical Journal*, November 21.)

"Uterine lameness," Dr. Hewitt defines to be interference with locomotion, difficulty or pain in standing or walking, in various degrees, due to an abnormal condition of the uterus.

It is well known, Dr. Hewitt writes, that inflammations of the abdominal viscera, in their acute stage, often render it physically impossible for the patient to walk at all; even passive motion of the legs gives the sufferer from peritonitis the acutest pain. In cystitis, in the acute stage of pelvic cellulitis, and in many other conditions, instances of which will readily occur to you, locomotion is difficult or extremely painful, and therefore, in one sense of the word, impossible; but not because the muscles of the legs are paralyzed. There is lameness; but the power of locomotion is really unimpaired.

Some forms of uterine lameness are obvious and unmistakable enough. Such are cases in which the uterus is prolapsed, and forms a tumor altogether external to the vulva, hanging down between the thighs, and rendering locomotion, of course, painful and well-nigh impossible. These are not, however, the particular cases to which Dr. Hewitt now refers. In the cases which will now engage our attention, the uterus is within the pelvis, and the "lameness" is produced in another way. The following is a typical case of one of these forms of uterine lameness:—

"I saw," Dr. Hewitt says, "quite recently, in consultation with Dr. Macaldin, a single lady, aged thirty-five, a governess by profession. For several years past she has been an invalid; for, though looking stout and well otherwise, she has been unable to walk more than a few steps without producing great discomfort. Frequently she is obliged to leave the dinner-table and recline, owing to pain produced by the erect posture; and for a long time she has been quite unable to follow her occupation. The sensation of discomfort on exertion is, in fact, so extreme as to preclude active motion. Believing the uterus in fault, Dr. Macaldin requested me to examine her. It was found anteflexed, very low

down in the pelvis, and the fundus pressing forwards and downwards to an extreme degree.

"In this case, the upright posture, increasing still further the dislocation of the uterus, gave rise to more pain. It is not difficult to understand why this dislocation of the uterus should give pain, the whole relations of the organ being altered, and the uterus itself the seat of flexion. Such a position of the uterus I have always found associated with pain on locomotion, varying in degree in different cases, with uterine lameness, in fact. I have had under my observation, at various times, a very large number of cases in which the disorder of which the foregoing case is a type existed, and invariably evincing the same relation as regards cause and effect. Frequently, ante flexion exists without much anteversion; and, when this is the case, a cursory examination reveals little, the os uteri being nearly in its proper place. But in such cases the body of the uterus is readily felt through the anterior vaginal wall by means of the finger; and a further examination reveals the true nature of the case. Trifling anteversion is a natural condition; but what I am now speaking of is something far beyond this in degree. The flexion is often greater than in the particular case above related.

"An extreme degree of uterine lameness was present in the following case, associated with anteversion of a marked form.

"A young lady, aged twenty-four, from the West of England, was sent to me by my friend Professor Wilson Fox. She had been ill for a year and a half, suffering from almost constant pain in the back and in the inguinal regions. Locomotion was productive of great aggravation of this pain. It appeared that, previously to the commencement of this illness, she had been much occupied in nursing a sick relative; and, in doing so, underwent much exertion. The uterus in this case was found completely anteverted, the organ lying parallel with the vagina, and the os uteri so high up that it was very difficult to reach it with the finger. The general health was much affected, and the whole system shaken and weakened. Insomnia, frequent nausea, and general want of appetite were also noteworthy symptoms.

"Many other cases of a similar nature to the two foregoing have been under my care. The lameness associates with ante flexion or anteversion is by no means the only symptom, but it is a very constant one. Dysmenorrhœa, menorrhagia, tendency to abortion, sterility, these are symptoms more or less frequently observed also; but in the worst cases, the 'lameness' is certainly the most prominent and troublesome symptom.

"I propose, in the next place, to call your attention to another class of cases in which uterine lameness exists. These are cases in which the uterus is flexed *backwards*, and the fundus is to be felt behind the upper part of the vagina. Here the lameness is, as a rule, more decided, and more constant, and more intense, than in the case of ante flexion; and this is not difficult of explanation, when we reflect that anatomically, as Dr. Savage well points out, the fundus of the uterus can be dislocated further in the backward than in the anterior direction. The lameness in marked cases of retro flexion is of the most intense degree; the slightest motion gives pain; walking is not impossible, but so painful that it is practically given up; and this state of things may go on for years unrelieved, and, indeed, increasing in severity, if the proper remedies are not had recourse to. The symptoms are not always so intense, but they are generally of the same kind. I have generally observed that the pain spoken of extends down the back of the thighs, and more so on one side than on the other, in this form of uterine lameness; and, indeed, sometimes it is altogether limited to this one position. Motion on level ground is often tolerated to a certain degree, but walking up or down stairs gives intolerable pain. In certain cases (of which my friend Professor Priestley mentioned an interesting case at a recent meeting of the Obstetrical Society) there arises, after a time, paraplegia; the muscles of the legs lose their power, and the patient is not only unwilling, but unable to walk. Here the paraplegia is probably a reflex phenomenon, but it may be connected with persistent disease of the muscles.

"Let me cite one or two cases as types of this form of uterine lameness.

"A young lady, aged twenty-two, whom I saw with Mr. E. Baker some time

since, unaccustomed to pedestrian exercise, took certain long walks in a mountainous district. She returned home ill, and became gradually unable to walk without severe pain. When I saw her, she had been confined to her couch for some months. The uterus was found to be retroflexed.

"Another very similar case, the daughter of a clergyman, consulted me for lameness. She was unable to walk without assistance, owing to extreme pain in the left inguinal region, and extending down the left thigh. The lameness had been increasing in severity of late; but she had been unable to walk without pain for a year previous to my seeing her. I found the uterus retroflexed, and bent a little to the left side, so that the fundus was inclined towards the great sacro-sciatic notch in the left side. The uterus and adjacent parts were in an exceedingly tender condition. Inquiry elicited the fact that, thirteen months ago, while travelling in a railway carriage, an accident occurred, and the carriage she was in was 'turned up on end.' A severe shake was the only apparent result; but within a month afterwards she became gradually very ill, and the pain above described commenced.

"I have seen a few other cases of a similar nature where acute retroflexion had been evidently produced by a severe strain, or other mechanical cause, in young unmarried women; the interference with locomotion being the most noticeable symptom.

"But uterine lameness from retroflexion of the uterus is most frequently witnessed in married women; pregnancy and the process of parturition, involving as it does considerable enlargement of the uterus, predisposes most powerfully to the occurrence of this displacement and distortion of the organ.

"There are other conditions of the uterus which may occasion lameness, and which must next be alluded to. In the foregoing cases, the uterus has been supposed to be altered as regards its shape by what may be termed an intrinsic cause. But we now and then find the uterus pulled over in this or that direction by the presence of fibroid growths. Thus, a fibroid tumor growing in the outer part of the wall of the uterus, on its anterior or posterior aspect, will have the effect of inclining the organ in one or the other direction, and thus there may ensue impairment of locomotive power. It is the result of my observation, however, that, unless the uterus be at the same time considerably bent, the discomfort due to these tumors—so far as locomotion is concerned—is ordinarily comparatively trifling.

"It would be foreign to my object on the present occasion to consider how the various ailments above described are to be cured. That will form matter for consideration on a future occasion. My desire at this moment is, to impress upon you what has forced itself on me as a wide and comprehensive and true conclusion in regard to uterine disorders, that when you meet with a case in which there is impairment of locomotive power, associated with uterine symptoms, the probability is very strong that, on careful examination, decided flexion and mechanical distortion of the uterus will be found to exist. Let it not be supposed for a moment, that I deny the presence in many of such cases of other, and it may be important, changes in the state of the uterus, aggravating and increasing, as they often do, the original mischief; but my experience has taught me that they are, for the most part, secondary, not only in effect, but in importance. And it is, I believe, substantially true that, in nine cases out of ten, 'uterine lameness' is due to flexion and analogous displacements of the organ.

"Lastly, I would not have it supposed that I disregard the ovary in regard to the question of lameness. I have met with several cases in which difficulty in locomotion was connected with ovaritis in various forms and degrees; but, compared with uterine lameness, ovarian lameness is, I believe, comparatively rare."

ART. 261.—*On Irritable Uterus.*

By EDWARD J. TILT, M.D., M.R.C.P.

(The Lancet, October 24.)

At a meeting of the Obstetrical Society of London, held October 7th, Dr. Tilt read a paper on "Irritable Uterus."

The author commenced by objecting to the term "irritable uterus" as representing a pathological nonentity, unless it were only intended to mean the aggravated uterine neuralgia that may accompany any kind of chronic uterine and ovarian disease in women of highly susceptible nervous system. He remarked that the eminent practitioner who invented the term, and thought it represented a new disease, was well aware of the neuralgic character of the phenomena he had observed, comparing it with the hysterical joints of young women, of which Sir B. Brodie had then lately written. Dr. Tilt observed that it was not Gooch's fault if, when he wrote, uterine pathology was in a very defective state, for the means of diagnosis were so very imperfect that he could not separately identify several chronic uterine diseases that set on foot, and kept alive that distressing form of neuralgia which he looked upon as a separate disease. Dr. Tilt maintained that there was no greater difference between the intense form of uterine neuralgia called "irritable uterus" and the ordinary pains of uterine disease, than between the toothache of a long-diseased fang and the toothache of a comparatively healthy tooth, or than between an ordinary headache and the excruciating cerebral neuralgia of brain-tissue, the nutrition of which has been impaired by years of confinement to a sick room. He considered the paramount cause of uterine neuralgia to be a morbidly inclined nervous system, without which severe uterine disease will not cause severe uterine neuralgia. Given this morbid tendency, and a very slight amount of any kind of uterine or ovarian disease may cause all the symptoms described as "irritable uterus." It may be congestion of the womb, or metritis, or cervical ulceration, or uterine displacements and flexions, the amount of mischief being often small, but there is always evidence of the womb having been more or less diseased for many years. Entertaining these views, Dr. Tilt entirely dissented from the statement lately put forth by Dr. Graily Hewitt, that "irritable uterus" was nothing more than retroflexion of the womb in a marked form. Dr. Tilt found aggravated uterine neuralgia to be of such rare occurrence that he could not understand how it could be considered of comparative frequent occurrence, unless the name was given to ordinary cases of retroflexion. Neither could he reconcile the assumed possibility of almost universally curing irritable uterus by the use of the American pessary, with the well-known fact, that many of these cases of aggravated uterine neuralgia are actually made worse by surgical manipulation.

ART. 262.—*On the Symptomology of Incomplete Laceration of the Uterus.*

By Dr. C. HECKER.

(*Monatsschrift für Geburtskunde*, April, 1868; and *Schmidt's Jahrbücher*, No. 6, 1868.)

It is an easy matter, in the great majority of cases, to diagnose a complete rupture of the uterus, but it is difficult to recognize the existence of an incomplete laceration, when only a part of the layers forming the uterus is injured, as, for instance, when the mucous or muscular coats have yielded, but the peritoneum remains intact. We can hardly obtain any certain information from external examinations, and on internal manipulation, which is generally required on account of the hemorrhage, nothing more is to be discovered save a solution of continuity when an examination is made with the whole hand. But then the rent may be so covered by the head of the child, which does not reach here, as in cases of complete rupture, that some doubt remains as to its existence.

Cessation, or at least considerable remission of the labor-pains does not occur, but on the contrary one observes a regular and probably somewhat weaker continuance of the pains until the last moment, since with laceration in the neighborhood of the vaginal portion—the most frequent seat of this harm—the activity of the longitudinal muscles remains unimpaired. The ominous changes of countenance, the rapid collapse, the sensation as if something had given way in the abdominal cavity; in short, all the symptoms which manifest themselves so clearly with complete uterine rupture, in cases where the rupture is incomplete, are absent or exist but to a very slight degree. But one symptom has never been missed by Dr. Hecker; this is, that the pulse, as in cases of complete rupture, always becomes frequent and small.

With this uncertainty of diagnosis it seems so much the more important to recognize an addition to our list of symptoms of a lesion which Dr. Hecker was enabled to make out in the two following cases. This consisted in the formation in the anterior wall of the vagina of a tumor extending backwards and downwards, and which was caused by a passage of blood into the areolar tissue between the bladder and uterus, and also by the formation of an extra-peritoneal and ante-uterine hematocoele.

CASE 1.—A woman, thirty-five years of age, was taken in labor with her ninth child on March 6th; towards noon the midwife in attendance could discover no presentation of the child, but on the contrary a peculiar swelling in the front part of the vagina. On the following morning there was considerable hemorrhage, and the vaginal swelling was then examined by Dr. Hecker; it was found to be elastic, fluctuating, and painless. It was decided not to be a cystocoele, as no pressure could have been exerted on the bladder by the child, which was then placed high up and could not be reached by the finger; the introduction of a catheter into the bladder also did not reduce the swelling. On exploration with the whole hand Dr. Hecker found an unusually large head presenting in the upper part of the pelvis, but could feel no solution of continuity in the uterine walls; in spite of the relatively good condition of the patient the pulse was more than 120. It seemed scarcely possible to attribute the vaginal tumor to anything else than an extra-peritoneal effusion of blood. Recourse was now had to immediate delivery. During the process of turning, Dr. Hecker felt distinctly a rent on the left side of the lower segment of the uterus. Turning and breech extraction were readily brought about; the head was found to be affected with hydrocephalus, and was therefore perforated and then delivered; the placenta followed without delay. The state of the patient soon after the operation was good, pulse 140; towards evening she became delirious, and the abdomen was distended, collapse rapidly followed and death occurred thirty-six hours after delivery. No *post-mortem* examination.

CASE 2.—A woman, forty-five years of age, and in her eleventh pregnancy, applied to the hospital at the end of December, in consequence of severe uterine hemorrhage, the cause of which seemed to be a carcinomatous condition of the posterior lip of the os uteri. After the hemorrhage had been arrested, the woman remained well until the 1st of January, when labor-pains came on accompanied by bleeding; the labor was very tedious, and the head remained fixed at the pelvic inlet. On the morning of the 3d of January the waters were discharged; and there was then discovered on examination an elastic tumor on the anterior wall of the vagina, which tumor was not affected by emptying the bladder; the heart-sounds of the fœtus were no longer audible. At midnight the patient was found sitting up on the edge of her bed with the extremities hanging down; during the frequently repeated labor-pains use was made of the abdominal pressure bandage. There was a calm expression of the face, the breathing was but slightly accelerated, the radial pulse not perceptible, heart beats 156. At five o'clock the patient fell down upon the bed with the remark that her eyes were darkened, and died. The child, though dead, was turned and extracted.

Post-mortem examination.—Uterus flabby and large; at its right side was a sub-peritoneal extravasation of blood, which reached upwards as far as the kidney; after removal of the organs of generation, a rent was observed which during the operation had been converted into a complete orifice, but retained

at its upper part the character of an imperfect rupture. The lower end of the blood extravasation was found between the bladder and the vagina. The posterior lip of the os uteri was infiltrated with a literally firm mass, which presented under the microscope decided characters of medullary sarcoma.

ART. 263.—*On Flexions of the Uterus.*

By ALFRED MEADOWS, M. D., M.R.C.P.

(*The Lancet*, October 24.)

At a meeting of the Obstetrical Society of London, held October 7th, Dr. Meadows read a paper on "Flexions of the Uterus."

The author began by asking whether the congestion and inflammation, with the attendant pain and local distress, which are so frequently present in uterine flexions are the cause or the consequence of such flexion. He pointed out the practical bearing of the question in its relation to therapeutics, showing that if they were the cause of the flexion, treatment should be mainly directed to them; but if the consequence, then the mechanical reposition of the uterus claims first attention. Allusion was made to the recent advocacy of the latter view by Drs. Graily Hewitt, H. G. Wright, and others, from which the author expressed his entire dissent, maintaining that the former was entirely reconcilable with the clinical history of these displacements, and contending that the explanations offered by the advocates of the latter view were not borne out by facts. The author observed that in the great majority, if not in all, of the cases of uterine flexion which apply for treatment, congestion and inflammation of the uterus exist; and he adduced the following reasons for believing that this inflammation almost invariably precedes, and is the principal if not the sole cause of, the displacement: 1. That very commonly there is an antecedent history of uterine disorder. 2. That cases are often met with presenting very much the same general symptoms as those met with in uterine flexions, but where, on examination, inflammation without any flexion whatever is discovered. 3. When in such cases flexion takes place, the additional symptoms are due merely to the mechanical effects of the surrounding parts, and are clinically separable from the preceding symptoms. 4. Cases of acute flexion are sometimes met with where no uterine symptoms whatever exist, and in such cases there is a complete absence of all inflammation. Various statistics were brought forward to prove that enlargement of the uterus from frequent gestation strongly predisposes to uterine flexion. Lastly, the author remarked that, for the foregoing reasons, our first care in the treatment of those cases ought to be to remedy that which is not only the cause of the flexion, but is at the same time responsible for by far the greater part of the patient's sufferings. When this is accomplished, but not before, we may resort to mechanical or other treatment for the reposition of the organ. The author believed that great evils would be likely to ensue if this plan of treatment were reversed.

ART. 264.—*Cases of Uterine Hemorrhage.*

By W. DRAPER, M.R.C.S., &c., Resident Surgeon to the York Dispensary; late Resident Obstetric Officer to the Middlesex Hospital.

(*British Medical Journal*, September 26.)

The following somewhat interesting cases of hemorrhage occurred to Mr. Draper, among many others, during his term of office as resident obstetric officer to the Middlesex Hospital in 1866.

In obstinate cases of post-partum hemorrhage, in which the ordinary means fail to produce contraction of the uterus, and to arrest flooding, Mr. Draper strongly advocates the employment of intra-uterine injections. He has injected both strong infusion of matico and iced water in many cases with the greatest success, and in no single instance has he seen the treatment productive of harm.

"**CASE 1.—Accidental Hemorrhage at eighth month, treated by Intra-uterine Injection.**—This case was first seen by me at the hospital, when the patient informed me that she was eight months gone in pregnancy, and that during the last few days she had had considerable hemorrhage, which still continued. A vaginal examination discovered the cervix uteri about two-thirds obliterated, soft, and yielding. The tip of the index finger passed freely into the external os; but the internal os was not dilatable. I ordered the patient home to bed, and to take a draught containing sulphuric acid and laudanum every three hours, with cold to the vulva, and a firm abdominal bandage in the evening of the same day I was called to the patient, as she was having great loss. The external os uteri now admitted the finger freely. On passing my hand into the vagina, I was enabled to reach the internal os, which with difficulty admitted the finger-end, but which appeared dilatable. I could feel the foetal head presenting, but nothing like placenta. As the hemorrhage was very free, I passed an elastic catheter into the uterus (carefully avoiding the membranes), and injected about two ounces of a strong infusion of matico; and then plugged the vagina. The patient being much exhausted, beef-tea and brandy were given freely.

"The following morning, when I removed the plug, as some slight hemorrhage occurred, I again injected the uterus with infusion of matico, and replugged. The os was rather more dilated. When the plug was again removed, there was no more hemorrhage. Labor set in naturally some days later, when the case came to a favorable termination; child living.

"**CASE 2.—Post Partum Hemorrhage: Contraction of the Uterus produced by Intra-uterine Injection of Iced Water.**—A student called me to this case some time after the expulsion of the placenta. I found the patient much exhausted, and flooding violently. Having restored her somewhat with brandy, &c.; I removed some large coagula from the uterus, gave ergot, applied pressure, &c.; in fact, employed all the ordinary means to arrest the flooding, without avail. I then passed a large male gum-elastic catheter (having a syringe attached) into the cavity of the uterus, and injected several ounces of iced water. The uterus contracted almost immediately; and, pressure then being applied, the contraction was kept up, and no more hemorrhage occurred.

"**CASE 3.—Hemorrhage fifteen days after Delivery.**—One of the hospital midwives called me to this case fifteen days after delivery of twins. The patient had suffered great loss before my arrival, and she was still flooding freely. Examination discovered the os uteri dilated sufficiently to admit the index and middle fingers easily. A firm blood-clot was found in the uterine cavity; this was removed, and firm manual pressure was exerted over the uterus; but very slight contraction of the organ was produced. As the hemorrhage continued, a compress was applied, the vagina was well plugged, and the following draught prescribed every three hours—

"R.—Liquoris secalis, \mathfrak{m} xv; acidi gallici, gr. v; acidi sulph. dil., \mathfrak{m} xx; aquæ menthæ piperitæ ad \mathfrak{z} ss.—M.

"On the following day, when the plug was removed, the uterus was found to be much diminished in size, and the os well contracted. No more hemorrhage followed, and the patient made a good recovery.

"**CASE 4.—Post Partum Hemorrhage from Irregular Contraction of the Uterus.**—I was called to this case some hours after labor, which, as the midwife in attendance informed me, had been a very rapid one. I found the patient flooding violently. Abdominal and vaginal examinations proved the fundus uteri to be tolerably well contracted. At about the middle third of the uterus there was a firm constriction; below this constriction the organ was dilated and flaccid, with the lips of the os everted. I removed a large clot from the lower dilatation, and then forced two fingers through the constriction into the upper portion of the uterine cavity, where another clot of considerable size was found. This having been removed, the right hand was made to dilate the uterine cavity, and the uterus was then grasped abdominally by the left hand, and the other thereby being forcibly expelled from the interior of the uterus, the organ was made to contract uniformly, and no more hemorrhage ensued."

ART. 265.—*Bromide of Potassium in Sickness of Pregnancy.*

By DR. PACKARD.

(American Journal of the Medical Sciences, July.)

Dr. Packard states that he has successfully employed the bromide in several cases where the sickness has been manifestly due to reflex irritation of the stomach, and in which the other remedies had failed. He gives twenty grains every three hours until the symptoms begin to yield.

ART. 266.—*Ovarian Neuralgia treated by Hydrochlorate of Ammonia and Tincture of Aconite.*

By J. WARING-CURRAN, L.K.Q.C.P.I., &c.

(Medical Press and Circular, August 19.)

By ovarian neuralgia, Dr. Waring-Curran means that class of ovarian disturbance which Dr. Churchill has described under the nomenclature of "*ovarian irritation*," and to that which Dr. West applies the simpler designation of "*ovarian pain*." Clinical observation (the author writes) has taught that the disease is independent of any local lesion, and more remediable by constitutional than any other method of treatment. His object in this paper is not to enter into those cases of *ovarian neuralgia* dependent on defective moral training, and where a strictly moral treatment is to be enforced, and undue connubial excitement checked, but those cases where the patients' sufferings are constant and severe, when there is no hysterical temperament, and no obvious symptom of imprudence or immorality. His object also, as briefly as possible, is to enter upon the treatment of such cases, and to illustrate, by the history of the six following, the great benefit to be derived from the muriate of ammonia and tincture of aconite in the treatment of this affection, when leeching, purgation, antispasmodics, vesicants, sedatives, internally administered, and locally applied, had signally failed.

"CASE 1.—R. A., twenty-seven years of age, of sedentary habits and chlorotic appearance, unmarried, sought advice for a severe and constant pain suffered in the left iliac fossa; had been under another medical gentleman for ten days, from whose treatment she stated she had experienced no benefit. The pain was dull and aching in character, occasionally passing along the anterior surface and inner side of the thigh; has not slept for a week; the appetite is impaired, but the secretions are all healthy; the tongue has a characteristic nervous coating, and the pulse is quick; there is no hysteria. Upon examination, I find a fulness in the left iliac region, with tenderness. I ordered the application of liniment, belladonna with chloroform, over the seat of pain; prescribed a saline aperient mixture containing tincture of belladonna, and a sedative draught at bedtime. For three days this treatment was persevered in, but there was no relief to the symptoms; the only ease experienced was when the patient lay flat on the face. I then applied a blister over the seat of mischief, gave opium, cannabis Indica, and camphor, in the form of pill, and tincture of conium in mixture. The following day there was an aggravation of the symptoms; the patient had spent a restless night, and the relatives became anxious. Upon this I prescribed an eight-ounce mixture, containing two drachms of the muriate of ammonia, with five-drop doses of tincture of aconite. The combination seemed to act magically; before the bottle was finished, the pain was gone. Sulphate of iron and quinine was afterwards given, and four months have now elapsed without any return of the complaint.

"CASE 2.—A. L., aged nineteen years, single, of a full habit, and hitherto healthy, became affected with a violent pain in the left groin, for which immediate advice was required, as the woman in attendance dreaded the existence of a hernia. On being visited I found the pulse high, and the usual symptoms

of inflammatory fever. She had suffered severely four months previous to being visited, and had passed no water from the commencement of the attack; vomiting was a constant and distressing symptom. On examination I found slight swelling on the left side, with intense pain on manipulation; the tenderness extended below Poupart's ligament. Having satisfied myself that there was no rupture, I ordered turpentine stupes to be applied, and directed her to have a warm hip-bath, and a mercurial aperient. The following day, as there was no progress towards amendment, I applied six leeches over the site of pain. This gave temporary relief, but towards evening the pain became if anything more severe. I found her, on being visited, on her hands and feet out of bed, apparently suffering most acutely. I prescribed her a draught containing twenty drops of cannabis, and immediately placed her on the muriate of ammonia and aconite mixture. The ensuing morning she expressed herself considerably relieved, but the tenderness remained, and at times the pain recurred, producing vomiting when it did so. The patient got on remarkably well until the menstrual period arrived, when the same state of things occurred over again; but under the muriate of ammonia and aconite much was done to arrest the disease. She has had a menstrual period since without any recurrence of the pain.

"CASE 3.—A. R. F., aged twenty-two years, married for the last fourteen months, has long suffered from chronic ovarian pain, increased during the menstrual period. Has taken, to use her own words, 'no end of medicine,' and has been under the treatment of various physicians, 'who all told her the same thing.' I prescribed at once the muriate of ammonia and aconite; two bottles in the course of six days entirely removed the pain. Six weeks have elapsed, a menstruation passed with little pain, and at the present time (July 14) I learn from the woman, who came with another patient, that she has entirely recovered, and has had no return of the pain since she finished the last mixture.

"CASE 4.—J. L., married, aged forty years, has suffered from ovarian neuralgia for a number of years. At times the pain is unendurable; during its existence there is fulness and tenderness over its site. Having been under treatment for an hepatic lesion, and obtained the above information in the history of her case, I told her, when the ovarian neuralgia returned, to apply, and I should prescribe for its relief. She accordingly did so in the course of time, and from the muriate of ammonia and aconite she obtained almost immediate ease.

"CASE 5.—G., about twenty-five years of age, single, has suffered from the time of her first menstruation with ovarian pain, causing frequent and painful micturition, with vomiting. Gave her the muriate, and had the satisfaction of hearing her express that she obtained instantaneous relief after its administration. Has suffered from subsequent attacks, which invariably yield to the medicines advocated.

"CASE 6 is furnished to me by a professional relative. It is that of a woman aged thirty years, who has borne three children, and has labored under ovarian suffering for a term of years. She had been a constant patient of my informant. He had 'exhausted the Pharmacopœia,' as stated, but with no benefit. Upon the exhibition of the muriate and aconite, the symptoms directly yielded to treatment, and the woman was relieved of much periodic suffering, and the physician re-established the confidence hitherto placed in him."

ART. 267.—*Acute Tubercular Peritonitis, simulating Malignant Abdominal Tumor.*

By I. DE ZOUCHE, M.D., late Senior Resident Medical Officer, Liverpool Workhouse.

(*Liverpool Medical and Surgical Reports*, October.)

The following case is placed on record by Dr. De Zouche:—

Anne J., aged thirty-eight, was admitted into the Liverpool Workhouse Hospital on the 10th August, 1867. She stated that she had always enjoyed good health

until a month before her admission, when she noticed a swelling in the abdomen, which rapidly increased. She suffered no pain or inconvenience, further than slight discomfort from the size of the abdomen, until a few days previous to her coming into the hospital, when her breathing began to be somewhat difficult, and she found herself unable to lie down in bed. On admission, the abdomen measured forty-five inches in circumference. There was no oedema of the feet. The heart and lungs were healthy. There was no apparent alteration in the size of the liver or spleen. The face was pale, and, while far from wearing the expression of health, gave no indication of the amount of mischief going on in the abdomen. The digestive powers were good, and the bowels regular. The menstrual secretion had been regular until the last period, when it did not appear. The abdomen was equally distended throughout, and fluctuation of fluid, apparently in the peritoneal cavity, was easily perceived. There was dulness on percussion over the whole of the abdomen, except in the right lumbar region, in a very limited space. Nothing could at this time be ascertained by palpation, the fluid intervening at every part except the spot above indicated. The urine was diminished in quantity, cloudy, faintly acid, sp. gr. 1.022, containing no albumen. A few crystals of triple phosphate were seen, under the microscope, but no other peculiar appearance. The cause of the ascites was the more obscure as there was no family history of disease to guide in its determination. About the 18th August she commenced to vomit her food. This vomiting it was found impossible to check. She took food readily, even eagerly, although quite aware that she could not retain it. Quantities of yellowish muco-bilious matter were also frequently vomited. A great many remedies were tried to arrest this condition, but in vain. She suffered greatly from thirst. I remarked that the quantity of fluid vomited was much greater than that taken by the mouth. At the same time, the size of the abdomen decreased rapidly, and the outlines of what appeared to be a tumor could be felt. It appeared to consist of three parts, giving the idea of a semi-solid multilocular tumor, the largest portion occupying the left iliac and lumbar regions. There was much pain complained of on pressure being made over this situation. Shortly before death, the circumference of the abdomen was a little less than the normal measurement, and fluctuation was scarcely perceptible. The bowels were inclined to be constipated, but were acted on from time to time by aperients and enemata. Three days before death there was a natural evacuation. The patient became much emaciated and depressed from want of food and sleep. She dozed under the influence of opiates, subcutaneously injected, but was frequently awakened by the necessity of vomiting. She died on the 8d September.

"Examination of the body thirty-six hours after death. There was evidence of recent pleuritis at the lower and posterior part of the chest, with serous and bloody effusion into the pleural cavities. The heart was healthy, but displaced upwards, and toward the mesial line. On opening the abdomen, what at first appeared to be a tumor came into view, occupying a great part of its cavity. It was found to consist of the omentum perfectly infiltrated with tuberculous matter, and thickened to the extent of half an inch. The stomach and intestines were matted together by this tuberculous mass, and were themselves studded with tubercle, which, however, was deposited on their peritoneal coats, but did not extend to their interior. The tuberculous inflammation appeared to have been most intense and recent in the left iliac region, where pain on pressure had been complained of. There was no tubercle in the lungs. The liver was slightly fatty, the spleen and kidneys healthy. A small quantity of fluid was found in the peritoneal cavity."

This case has many points of interest; first as to the diagnosis. This was surrounded with difficulties. It was believed that a malignant tumor existed, but its precise nature or position remained undetermined. The lobulated and uneven feel of the intestinal mass, covered by the thickened omentum, giving a dull sound on percussion over the umbilical and hypogastric regions, and, taken in connection with the ascites, seemed to indicate the existence of an ovarian tumor. The age and appearance of the patient, and the suppression of the menstrual secretion at the last "period," would confirm this belief, and the vomiting might be accounted for as the result of reflex irritation. Against this supposition were the facts that the os uteri appeared healthy and in its normal position, and that affections of the ovary seldom run such an acute course. Although tuberculous inflammations are not usually classed among the malignant affections, yet this had all the symptoms of malignancy in rapidity of course and exhaustion of the patient.

Another interesting phenomenon was the absorption of the ascitic fluid by the abdominal vessels, and its being emptied out by the stomach. This absorption must have taken place constantly, as the vomiting had no relation in point of time to the taking of food. It appeared as if it required a certain quantity of fluid to excite the stomach, which rejected it as soon as it had accumulated.

ART. 268.—Three Cases of Puerperal Convulsions coming on at the Commencement of Labor.¹

By JAMES CAPPIE, M.D.

(*Edinburgh Medical Journal*, October.)

Dr. Cappie's special object in detailing these cases has been to illustrate the safety of early instrumental interference, when such seizures occur in the early stage of labor.

"CASE 1.—On the morning of the 5th April, 1862, I was sent for to assist my friend, Mr. Gibb, in a case of puerperal convulsions. Mrs. C. had fallen on the floor in a fit at eight o'clock the previous evening, and since then severe convulsions had continued to come one very half-hour. When I saw her at two A. M. the point of the finger could hardly be introduced into the os uteri, and there did not appear to be any uterine contractions. I punctured the membranes with a common pencil, and tried to dilate the os with the finger, but with little success, on account of the want of expulsive efforts. Chloroform had been freely administered before my arrival, but the fits continued to recur regularly every half-hour. The condition of coma between them was so deep that she could not be made to swallow anything. A glance at the dirty pale, almost anæmic, countenance of the patient was sufficient to convince us that bleeding to any extent was not to be thought of. I left her, with instructions I should be sent for if pains appeared to commence. I was sent for at six A. M. and found the os slightly dilated, and the pains very slight. I again tried to dilate with the finger, and succeeded till it was about the size of a crown-piece. The case now appeared very urgent. It was obvious that unless the patient was speedily delivered, she would soon sink from exhaustion. But the vagina was not relaxed, and the distinction between the internal and the external lips of the os was obliterated; that is to say, the parts were in the condition in which most eminent authorities insist that instrumental interference is not to be thought of. Still, such interference seemed to be the only chance left to the patient, and I determined to attempt delivery. In the manner to which I shall more particularly allude afterwards, I succeeded in applying the forceps; then, by making cautious and intermitting traction on the head, and at the same time supporting and pushing back the lips of the os, I got the latter gradually to dilate. After the head had passed into the vagina, the child (dead) was born in a few minutes. This was at eight A. M., and the patient had only two fits from that hour till four P. M., after which they did not return. In the forenoon she had a turpentine injection, which roused her sufficiently to enable her to swallow a little brandy and water, but the comatose condition continued the whole of the next day. Small quantities of stimulants and beef-tea continued to be administered to her, and after consciousness returned, her progress towards convalescence was steady. I may mention that this patient had convulsions in her first confinement; that, according to her husband's statement, she was then largely bled without the frequency of the fits being affected; and that, though they had continued a much longer period in her present confinement, her recovery this time was as satisfactory as in the first.

"I was sent for to see this patient again a few months afterwards, as she had taken a convulsion fit. She was in the third month of pregnancy, and on examination I found the ovum in the vagina. After it was taken away there was no return of the convulsions.

¹Read before the Edinburgh Obstetrical Society, May 13, 1868.

"CASE 2.—On the morning of Sunday, 29th March, 1864, I was sent for to see Mrs. M'L., then in the beginning of the eighth month of her first pregnancy. I was informed that she had been obliged to rise about two o'clock on account of severe headache; that, to relieve this, she had allowed cold water to run from a cistern on her head for a few seconds, and that at four o'clock she was seized with a fit of convulsions. When I saw her, consciousness had returned, but as she was telling me how she had been feeling, another fit came on. After this, consciousness was not for the time recovered, and the fits recurred every half-hour. I immediately ordered the hair to be cut off, and leeches to be applied to the temple. I returned at seven A. M., and found the patient as I had left her—unconsciousness persistent and deep, and the fits returning regularly. Drew off a small quantity of water, which I found to be albuminous. I then cupped over the loins, and took away more than a large soup-plateful of blood, and afterwards administered chloroform; but the frequency of the fits was not in the least affected by these means. I made occasional examination, but the os uteri showed no tendency to dilate till five o'clock in the afternoon, when I could introduce the finger within it. On account of its rigidity, and the unrelaxed state of the vagina, the efforts to dilate it were fatiguing for the fingers, and it was half-past seven before I could venture to apply the forceps. This, however, I accomplished before the os was half dilated. I then set to work, and, in imitation of the natural pains, made intermitting traction on the head, and at the same time continued to dilate with the finger. The child (dead) was born at ten o'clock. From four in the morning till this time the convulsions had been wonderfully regular. Whenever the time was noted, the interval was never above a few minutes more or less than half an hour. After the second fit complete insensibility continued between the fits. From ten o'clock till half-past two next morning she had four seizures—scarcely one in each hour; then she had other four between 2.30 and 11 A. M.; after which they never returned. Altogether she would have forty distinct epileptiform seizures—the most of them severe. In the afternoon her breathing became quiet, and, except that she could not be roused from it, her sleep appeared natural. In the evening she was able to swallow a little, and the next two days she readily took in whatever was given to her, but it was Thursday before she looked about her and attempted to speak. So speedy, however, was her convalescence after this, that on the Saturday she was sitting up in bed to her meals and feeling quite well. Thirteen months afterwards, I again attended this patient, when she miscarried at the sixth month. During pregnancy she had frequent headaches, but no albuminuria. The kidneys were kept active with acetate of potass. There was no return of convulsions. She has been repeatedly pregnant, but miscarries at the sixth or seventh month from diseased placenta.

"CASE 3.—M. D., aged thirty, was admitted to the City Poorhouse on Saturday, 11th April, 1868. She supposed herself to be near the end of the ninth month of her fourth pregnancy. On the Sunday forenoon she complained of headache, for which she kept her bed, and at mid-day she had a convulsive fit. The nurse, thinking she might be subject to epilepsy, did not send for medical assistance. The fit soon passed off, leaving the patient drowsy. She got a dose of castor oil, which operated freely, and during the two following days she was going about and feeling in her usual health. She stated that she never had suffered from convulsions before. On Tuesday evening she went to bed, feeling well. At 1.30 on Wednesday morning she got out of bed, appearing stupid and not to know what she was about. Immediately on lying down again she was seized with a fit. When this went off, consciousness did not return before another seizure came on, twenty minutes after the first. When I was sent for, I happened unfortunately to be away at another confinement, and did not get the message till after four o'clock. The tenth fit was just passing off when I saw the patient. On examination I found the os soft, and easily admitting the point of the finger. I separated the membranes as far as I could, and then ruptured them with a stocking-wire. There did not appear to be any uterine contractions. The question then came to be, should I bleed? The patient was a little woman, moderately well nourished, with a very

short neck. The breathing was hurried, the inspirations being short and quick, but without any approach to stertor, and the expirations more prolonged and noisy. In other respects she was perfectly quiet between the fits. All the muscles were flaccid, and the limbs motionless. Pulse 72, regular; the face rather pale; no flushing before the fits; no throbbing of the carotids; in short, nothing to indicate any unusual tension of the circulation. I therefore determined simply to attempt delivery as speedily as possible, and proceeded as I had done in the two former cases. I first dilated the os as far as the uterine inertia would permit. I drew off a small quantity of urine with the catheter, and it proved to be highly albuminous. Indeed, the water in the tube appeared, on being heated, to become converted into a curd. Shortly after five o'clock I applied the forceps, made traction on the head, and continued to push back the os. This was pretty well dilated before any well-marked expulsive efforts were made on the part of the mother, and these efforts were only brought on when I made the initiative by moderate traction. The labor was completed at a quarter past six o'clock. The child, a fine healthy-looking girl, cried lustily as soon as it was born, and up till this time it has kept well. I now expected the severity of the fits to abate, but in this I was disappointed. They continued to recur every twenty minutes, and as strongly as before. When a seizure was about to come on, the patient opened her eyes with an expression so placid that one could hardly help thinking she was about to become conscious. But this was only for a couple of seconds; immediately the head was turned to a side and thrown back; the eyes were rolled upwards towards a corner of the orbit, and the mouth opened with a short cry, resembling a suppressed exclamation of dread; then the muscles of the face drew the features into ugly contortions; the arms were thrown out with rapid whirling and striking movements, as if passionately aiming blows at an imaginary antagonist; the body, too, wriggled with movement, and the legs were fairly lifted off the bed with a rapid violent pattering action. As the fit was going off, the limbs first became quiet, the arms fell with one or two spasmodic jerks of the shoulders, and the working of the face—now livid from venous engorgement—disappeared with a few twitching movements. Abundant frothy mucus, occasionally tinged with blood, came from the mouth. Till another fit came on, the most complete relaxation was present; neither head, hand, nor foot stirred, but lay in whatever position it was placed. The respiration continued hurried, but was never stertorous. Early in the morning her hair was cut off, and six leeches applied to the temple. A turpentine injection was also given, and acted freely. In the forenoon I tried the inhalation of chloroform. None of these means had any effect in moderating the fits; they continued regularly till midnight, by which time she must have had about seventy seizures. From 12 o'clock till six A. M. on Thursday she had one fit each hour. During the day she had only slight seizures on the right side, the arm being thrown up as far as it could be raised; pulse had become very quick and weak. She had a severe fit in the evening at 10.30, and others on Friday at 3 A. M. and 5.30 A. M. In the forenoon she kept very quiet, and was able to swallow a little spirits and water. I saw her at 11 A. M., and felt very sanguine she would rally. The respiration was tranquil; pulse 80; the kidneys were acting freely. An hour afterwards, however, the breathing suddenly stopped. The nurse thought she was about to become convulsed again, but no fit came on, and the breathing did not return. I may mention, that the mother of this patient also died from childbed convulsions."

In regard to the pathology of epileptiform seizures, the opinion appears to be gaining ground that during their continuance the brain is anæmic, and not congested; that the blood is watery, and not overbounding in red corpuscles. If this view be correct, Dr. Cappie writes, then bleeding can only exert a beneficial effect by diminishing the absolute amount of a supposed poison in the blood. But it is to be remembered that the most certain effect of bloodletting is to increase the proportion of the watery elements in the circulation; and it may therefore be a question whether, in uræmic convulsions, the *relative proportion* of irritating material in the blood may not also be increased by large bleedings. In this view, the occurrence of a convulsion, *per se*, is no more a reason for

taking away a large quantity of blood than is the occurrence of a paroxysm delirium tremens.

We find in practice that many cases get well without the use of the lancet. Dr. Cappie's own experience is confirmatory of this.

The following is a brief notice of all the other cases of puerperal convulsions he has met with:—

"Mrs. T., a primipara, had severe forcing pains in the last stage of labor. When the head was nearly born, a convulsion fit came on. It passed off, and the child was expelled with the succeeding pain. She had another fit shortly after the placenta was expelled. In this case nothing more was done than is usually attended to in a case of ordinary epilepsy; the shoulders were raised, and care was taken to have nothing tight about the throat and chest. No other attack came on, and the patient made an excellent recovery.

"Mrs. C., also a primipara, had a moderately easy labor, during the last two hours of which she was under chloroform. She was better before ten o'clock in the evening, and I left her at eleven. During the night she complained of severe headache, and at five A. M. she was seized with convulsions. When she recovered consciousness the headache continued, and at six o'clock she had another attack. By this time I had seen her, and put six leeches to the head. The fit recurred every hour till nine o'clock. In the meantime I found that the urine was albuminous, and ordered a drink with acetate of potass in it, which she was to take freely. The headache had not been relieved by the bleeding, but soon after taking the mixture she was greatly soothed, and the fits did not return.

"Lastly, less than three weeks ago, I visited E. L., a weakly irritable woman, in the eighth month of her third pregnancy, who had been seized with a severe convulsion. I saw her shortly after she had recovered consciousness. She had taken castor-oil that morning to relieve severe headache she felt, and it had operated freely, but without relief to the headache. The urine was scanty, but not albuminous. I immediately ordered the acetate of potass. This flushed the kidneys, with complete relief to her feelings, and she has continued well."

ART. 269.—*The Treatment of Puerperal Convulsions.*¹

By J. G. SWAYNE, M. D.

(*British Medical Journal*, August 8.)

After commenting on the unaccountable disfavor with which depletion, even in this disease, is now regarded by many practitioners, Dr. Swayne related a well-marked case in his own practice, in which the convulsions which had increased after delivery and after all the usual remedies, except chloroform, had been tried, were at once arrested by bleeding. He also cited similar cases occurring in the practice of Dr. Depant, of Paris, and Dr. Dyce, of Aberdeen. In one case related by the former, chloroform had been tried for four hours without avail before bleeding was had recourse to. Lastly he narrated a case from the practice of his brother, Mr. S. H. Swayne, in which bleeding was attended with a like success, and followed by a marked diminution in the quantity of albumen in the urine within a very few hours. Dr. Swayne regards bleeding as the most important remedy of all, especially in those convulsions which have a centric origin.

ART. 270.—*On Cystitis in the Female.*

By M. DEMARQUAY.

(*L'Union Médicale*, No. 118, 1868.)

A very common malady, but one little studied, is acute or chronic cystitis in the female. Still, if one takes the trouble to examine with care the urine of

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

women applying for treatment of some affection of the uterus or of its appendages, the truth of the remark just made will be readily proved. M. Demarquay has frequently been consulted, both in hospital and private practice, by young women complaining of much pain during micturition. Examination of the urethra revealed some redness of the urethral mucous membrane, either simple or complicated with swelling. A certain number of these patients had been subjected to various plans of medicinal treatment, without any kind of relief; and some had even undergone canterizations, practised for the purpose of removing the pains, which were supposed to be neuralgic. But on reflecting that micturition was particularly painful under two conditions—1, when the canal was inflamed, and 2, when the urine was altered in its composition and contained pus—M. Demarquay was led to examine with the naked eye, and also with the microscope, the urine of women who complained of pains more or less severe during the passage of urine from the bladder; it was then made out that the bad symptoms were owing to chronic cystitis. In these cases the urine, when placed in high glasses, deposited a certain quantity of purulent mucus.

M. Demarquay, taking into consideration the very intimate relations between the bladder and the uterus, was led to study the condition of the bladder and urine in acute and chronic affections of the womb. In acute affections of the uterus it may be conceived how readily the bladder shares in the painful condition of the uterine organ; there is scarcely a practitioner who has not observed under those circumstances disturbances more or less serious of the emission of urine. The fact is too well known to be insisted upon. But it is no longer the same in chronic affections of the uterus, since with these maladies the conditions of the bladder have not been investigated with the same amount of care; still they deserve careful attention, for by studying the phenomena which occur on the side of the bladder, we shall find in this study not only fresh indications to fulfil, but also the cause of the phenomenon hitherto but insufficiently investigated. Thus in organic affections of the neck of the uterus we may often observe purulent urine, and also frequent desire to micturate, accompanied with pain; in these particular cases the nature of things may be more readily comprehended by the fact that the disease has been communicated to the base of the bladder; but chronic cystitis often exists without any complication on the side of the uterus.

Cystitis complicating chronic metritis is very often completely overlooked, as women seldom call the attention of their medical attendant to the fact that they suffer pain during micturition, and that they are often obliged to fulfil this desire.

The symptoms of cystitis generally yield to a successful treatment applied for the acute or chronic metritis. But it has happened to M. Demarquay to have observed women who were to all appearances perfectly relieved of their uterine affections still complaining. Examination of the uterine organ revealed no serious changes; but on exploring the bladder and examining the true causes of the patient's complaints were discovered.

In consequence of circumstances difficult to determine the uterine malady may disappear, whilst the cystitis, which at first was but a neighboring affection, may obstinately persist.

The coincidence of acute or chronic cystitis complicating an acute or chronic affection of the uterus is a fact which has been mentioned by several surgeons who have paid great attention to the maladies of the uterus. But the point which has not been sufficiently insisted upon is the frequent occurrence of this complication, to which M. Demarquay has thought it necessary to call the attention of the profession.

ART. 271.—*On Fissure of the Neck of the Bladder.*

By M. NOEL GUENEAU DE MUSSY.

(Gazette des Hôpitaux, No. 105, 1868.)

The following clinical remarks were made at the Hôtel Dieu by M. Gueneau de Mussy:—

"There is in the St. Bernard's Ward a young woman who was delivered on January the 14th, and subsequently entered the hospital, not on her own account, but to obtain careful treatment for her infant, which had arrived at the last stage of cachexia, through inanition. Since her delivery, which occurred two months ago, and was easily accomplished, she has experienced a scalding sensation during micturition.

"This morbid phenomenon is not of rare occurrence after tedious labors, when the head of the child has remained for a long time in one position, and particularly when it has pressed directly upon the urinary organs, or when the forceps had been applied; finally, whenever the neck of the bladder has been violently bruised by some injury. Dysuria then occurs. Emission of urine is painful, and sometimes impossible, so that it becomes necessary to have recourse to catheterism.

"In our patient the affection which was so readily produced, quickly increased in intensity. At the end of four weeks, micturition had become very painful and very frequent. At certain periods the woman could not retain her urine, which flowed away in a sudden, rapid, and interrupted stream. She felt at the same time pain, which at first was slight, but afterwards, at the end of micturition, became very severe, and was afterwards prolonged for twenty minutes, even half an hour. The urine contained blood and purulent mucus. There was a yellowish deposit, which occupied the lower fourth or third of the vessel in which the urine had been received, and above this was another deposit of a deep red color, the composition of which could be easily recognized on a simple direct examination, and was determined unquestionably by means of the microscope, to contain blood corpuscles and leucocytes.

"The patient did not call our attention to this affection before she had been in the hospital for some fifteen days—that is to say, two months and a half after their commencement. For some days she had had rigors, had lost appetite and rest, and suffered from malaise—in fact, she had fever.

"From the pain experienced by the patient at the end of micturition, and for some time after this act, it was for us to inquire whether there were not a calculus in the bladder; for when the bladder, in emptying itself, brings its walls into contact with a very hard and irregular stone—as, for example, one of oxalate of lime—and pushes this agent against its neck, a very painful irritation of the mucous membrane results. The muscular layer may, by redoubling its contractions, increase and prolong the suffering of the patient. After inquiring into the manner in which micturition was performed in this case, it was learnt that the patient often experienced a sensation of contraction, a sudden spasm of the neck of the bladder, and that then the jet of urine was arrested for a moment, and afterwards sharply emitted again. These interruptions were frequently repeated, and accompanied with very acute pain. The symptoms were those of vesical tenesmus, and there was nothing characteristic of stone in the bladder. A sound was passed, causing great pain, and did not reveal the existence of any foreign body within the bladder.

"On examining the orifice of the canal of the urethra and the vagina, the mucous membrane was found of a deep purplish-red color. The meatus was prominent and injected, either in consequence of the irritation caused by the contact of pus, or by a propagation of the inflammation developed at the origin of the canal.

"The first diagnosis was cystitis of the neck of the bladder with urethritis, but after consultation with M. Voillemier, who had previously observed a similar

case, the symptoms were attributed to a condition of the neck of the bladder analogous to that existing in fissure of the anus.

"This view was, indeed, a perfectly justifiable one. In cases of fissured anus, the passage of the fecal bolus excites at first a painful sensation, which is afterwards quickly transformed into acute pain, increasing more and more, and finally acquiring extreme severity under the influence of the spasmodic contraction of the sphincter. These symptoms are prolonged for a longer or shorter time after defecation, and gradually diminish until another stool. Exactly the same train of symptoms occurred in our patient during micturition. Are we not authorized in attributing these identical phenomena to the same cause—a fissure?

"M. Voilemier treats this affection of the neck of the bladder by forcible dilatation. After having placed the patient under chloroform, he introduces into the canal of the urethra forceps with two long and thin branches. These are passed into the vesical cavity, and then, when half opened, are forcibly withdrawn. In M. Voilemier's case there was immediate relief; and, after a few days, there was no blood in the urine. Notwithstanding the ingenious character and the success of this operation, I preferred, before having recourse to it, to exhaust the resources of less violent therapeutic methods. The following plan of treatment was then carried out:—

"At first, emollient injections were applied to the interior of the bladder; and afterwards, in the course of a few days, I ordered injections of a solution of nitrate of silver, the amount of which was gradually increased. During the first two days the injection consisted of 20 centigrammes of nitrate of silver in 400 grammes of distilled water; two days after this the amount was increased to 40 centigrammes, and finally to 50. After four or five days of this treatment the pains were notably diminished in severity; and at last they entirely ceased. The blood and then the pus disappeared from the urine, and after fifteen days the patient was cured.

"M. Voilemier is not the only one who had noticed the existence of a vesical fissure. M. Nélaton had also met with two examples, and struck with the symptomatic analogy which existed between this affection and fissured anus, attempted to apply to it the same kind of treatment. An instrument was devised by M. Nélaton for performing dilatation, but the operation did not remove the symptoms."

ART. 272.—*On Diagnosis, in the Female, by the Hand Introduced into the Rectum.*

By C. F. MAUNDER, Surgeon to the London Hospital.

(*The Lancet*, September 26.)

"A few days since," Mr. Maunder writes, "my colleague, Dr. Head, requested my opinion in the case of a young woman with atresia vaginæ. With this exception the external signs of her sex were sufficiently developed. We were anxious to determine the presence or absence of a uterus, as well as the possibility of reaching that organ by means of an artificial vagina. The finger in the rectum enabled us to detect the left ovary lying low down in the pelvis, and on a higher level than this the digit just reached a firm body to the right of the mesian line, which might possibly be the cervix uteri. It was determined to cut for this in the natural site of the vagina. Having made an incision in the mesian line between the fourchette and the meatus urinarius (where was a depression), I tunnelled my way with my forefingers upwards in the direction of the supposed os uteri. A passage thus made, the length of my finger allowed me to feel something, but still at a distance from the point of the finger, and not in the mesian line. I was unwilling to cut further. At this stage Dr. Head suggested that I should resort to the mode of examination which he had heard I had adopted, and as is above mentioned. I accordingly (the back of the fingers and hand being well oiled) introduced the hand into the rectum, and was enabled to determine the absence of the uterus, but the presence of the right ovary, and

it was this organ which we had suspected might possibly have been the cervix uteri. With the left hand in the rectum, and the right upon the anterior abdominal wall, I was enabled to explore the pelvis with facility.

"In cases in which it is of vast importance to determine with accuracy, as it certainly was here (question of marriageability), the state of the pelvic organs, whether in reference to congenital malformation or to morbid growths (tumors, &c.), the hand introduced will avail much.

"Should the sphincter be ruptured, as it was slightly in the above case, incontinence of feces for a short time is a matter of little moment when compared with the great importance, in certain instances, of arriving at a positive diagnosis.

"*Note.*—The patient being thoroughly under the influence of chloroform, the hand should be introduced with the backs of the fingers and the knuckles towards the hollow of the sacrum, up which it will glide as soon as the knuckles have passed the sphincter, either by dilating or rupturing it."

ART. 273.—*The Rectum in its Relations to Uterine Disease.*

By Professor HORATIO R. STOREY, of Boston, Surgeon to the Franciscan Hospital for Women, &c.

(*The American Journal of Obstetrics*, May, 1868.)

In this paper three propositions are laid down.

1. The frequency of organic disease of the rectum in women is, as a general thing, under-estimated.
2. The importance of such disease in causing, exaggerating, or modifying the character of uterine disease is, as a general thing, not appreciated or recognized.
3. The present treatment of rectal disease, especially its surgical treatment, is capable of being very materially improved.

The author adduces the following case as a single illustrative instance of the method of diagnosis described in his paper.

"A young lady, unmarried and of strumous habit, to whom I had been called in Hampden County, some four years since, was subsequently removed to Boston, and placed under my care. She had uterine disease, with reflex ovarian and vesical disturbance. The meatus and vulval orifice were fringed with irritable outgrowths which necessitated excision, and there was withal vaginismus and urethral spasm of such severe character that the finger in the one case, and the catheter in the other, could only be passed during anæsthesia. A prominent symptom was the existence of intestinal and rectal irritation, the bowels being at times so inactive, that on several occasions I was compelled to artificially remove large quantities of impacted feces; and at others there was excessive and very offensive purulent diarrhoea, and this almost irrespective of medication or diet. Digital or specular examination of the rectum was as impossible without anæsthesia, as that by the vagina, while after the full anæsthesia had been induced, such was the spasmodic condition of the sphincter ani, that a satisfactory examination by either of the methods indicated was still impossible. I was able to ascertain the presence of ulceration within the rectum, sufficient to account for many of the patient's symptoms, but of its extent and precise character I was still ignorant. My father saw the patient with me in consultation, with the same result. I now ruptured the sphincter ani and practised vaginal eversion of the rectum, with the effect of disclosing the whole portion of the interior of that canal, which was affected by the disease, settling at once the diagnosis, and rendering the requisite local remedies as easy of application as if to the exterior of the body. This patient, I may add, had also ulceration of a limited portion of the ascending colon in the neighborhood of the cæcum, dating from a dysentery long previous, and localized distinctly enough by a point of severe and chronic pain. From this she never got ease till I applied a strong solution of nitrate of silver through a rectal or rather colonic hollow bougie, passed through the sigmoid flexure, and until its extremity could be felt by external palpation in the right inguinal region, at the seat of pain.

Temporarily relieved in this manner, the poor girl finally succumbed to her malady; in this case the uterine and other pelvic disturbances having been the result rather than the cause of the intestinal disease."

ART. 274.—*On Scarification of the Cervix Uteri in Inflammatory Affections of the Womb.*

By R. H. MEADE, F.R.C.S., Consulting Surgeon to the Bradford Infirmary.

(*The Lancet*, October 24.)

In this paper Mr. Meade recommends the direct abstraction of blood from the neck of the womb, by making incisions, or rather punctures, into its substance. Quite as much blood, he says, can thus be obtained as by means of leeches, and in a much more easy and rapid manner. The whole operation may be completed in two or three minutes, without any fuss or preparation, at the same time as the necessity for its performance is ascertained by an examination with the speculum.

In advocating this method of treatment Mr. Meade does not bring it forward as any novelty, for he is aware that scarification of the lips of the womb has been recommended by many authors for the relief of congestion and inflammation of the cervix; but he cannot find, in the works which he has consulted, any precise directions as to the method of its performance. It has been compared to scarification of the palpebral conjunctiva, and he presumes is therefore expected to be performed in a similar manner—namely, by drawing the edge of a sharp lancet lightly across the inflamed surface. Very little blood could be thus obtained, and he is not surprised at leeches being recommended in preference to scarification, in cases where much depletion is desired.

The plan Mr. Meade adopts is to make a number of punctures or stabs with a straight lancet-pointed bistoury, having a long handle, which stabs he makes more or less deeply, and more or less numerous, in proportion as he thinks it necessary to take away much or little blood. From one to two or three ounces may be easily thus procured. Of course a speculum must be used, and the one which Mr. Meade prefers is a bivalve one, with wide flat blades, called, he thinks, Tyler Smith's speculum, by the instrument makers. The blades are not very long, and being wide at their extremities, when fully expanded they stretch and shorten the walls of the vagina, so that the cervix uteri readily falls between them, and is easily seen and reached. Another advantage of this speculum is, that when closed it is very easy of introduction.

In this mode of abstracting blood, it is seldom necessary to puncture or cut very deeply; but incisions in the lips or neck of the womb seem to heal very readily. Mr. Meade has never seen the slightest inconvenience follow, however deeply he has made them, with the exception of the bleeding being rather profuse.

Three cases are related to show the benefit that may be derived from the treatment advocated, in three distinct varieties of inflammatory diseases of the uterus.

, ART. 275.—*The Treatment of Intra-uterine Polypi.*¹

By GEORGE H. KIDD, M.D., F.R.C.S.I.

(*British Medical Journal*, August 8.)

This paper opened by showing that we are indebted to Sir James Simpson's application of sponge-tents for the dilatation of the uterus, for being able to detect or treat intra-uterine polypi; but sponge-tents, it is shown, are liable to many objections. They become very fetid when they have been a few hours

¹ Abstract of a paper read at the thirty-sixth annual meeting of the British Medical Association.

in the uterus; they require prolonged and repeated applications before they open up the canal of the cervix to allow of a complete exploration of the uterus; and they dilate the os externum to an unnecessary degree before they act on the os internum; and their use may give rise to so much irritation as to be attended with fatal consequences. Instead of sponge, Dr. Kidd recommends the use of sea-tangle, with pieces of which, sufficiently long to traverse the whole cavity of the uterus, and about the size of a No. 5 or 6 bougie, he fills the canal of the cervix as completely as it can be done without using force or causing pain. If the os should be abnormally small, it might be necessary to introduce a single tent for a few hours, as a preparation for more full dilatation; but in general the parts are so relaxed by the hemorrhage from the polypi, that five or six more pieces can be introduced at the first attempt; and this is found sufficient to permit of a full exploration of the uterus, and the removal of any polypi found in it. For extracting the polypi, the use of a single wire *écraseur* is found the most certain and simple method. The tumor is seized in a vulsellum, guided to it by the finger on the uterus; and then the loop of the *écraseur* is guided to it by the vulsellum, and adapted round its neck by the finger, when tightening the screw divides the attachment of the tumor, allowing it to be extracted along with the vulsellum by which it had been seized. Dr. Kidd stated that he had operated in this way on very many cases during the last three years, and had always found it safe and efficacious; and he concluded by exhibiting twenty-nine fibrous polypi that he had removed in this way from the interior of the cavity of the body of the uterus of an unmarried woman aged fifty-six, at four operations; three being removed in the first operation, in September, 1867; nine in the second, in March, 1868; eleven in the third, in May; and six in the following July; when the interior of the uterus was freely painted over with strong nitric acid, with the hope of preventing their further growth; and, for so far, with good effect. The tumors were found, on microscopical examination, to be simply fibrous, differing in this respect from the recurrent fibroid tumors described by West and others; and Dr. Kidd stated that he believed the case to be unique in the annals of medicine.

ART. 276.—On the Fibrous Bodies and Polypi of the Uterus existing during Pregnancy and after Delivery.

By Dr. FORGET.

(*L'Union Médicale*, No. 71, 1868; and *Seance du Société Impériale de Chirurgie*, Juin 10, 1868.)

Dr. Forget investigates the three following questions:—

1. What is the influence of fibromata on pregnancy, and *vice versa*?
2. How do these neoplasms act as causes of dystocia at the time of delivery, and of the ulterior affections, whether primary or consecutive?
3. The proper course of action for the surgeon to take in such cases, and the necessity for immediate or delayed treatment?

Dr. Forget recognizes three kinds of uterine fibrous tumors—1. The interstitial fibrous bodies developed in the thickness of the organ. 2. Sub-peritoneal fibromata. 3. Polypi, properly called, which are attached by a pedicle to the inner surface of the uterine cavity. These fibromata may be either solitary or multiple, and occupy some part of the utero-vaginal apparatus.

With regard to the interstitial fibrous bodies, Dr. Forget states that when these growths exist before pregnancy, the most frequent effect of the pregnant condition is to increase their vitality, to augment their volume, and to quicken their ulterior progress after delivery. The vascularization of the fibrous bodies and intra-uterine fibrous polypi during pregnancy is explained by the excessive nutritive action of which the uterus is the seat during gestation, and in which the pathological formations attached to it necessarily share. Hence the hemorrhages to which these tumors give rise, and which are favored after delivery by the obstacles they form to contraction of the uterine walls.

The spontaneous expulsion by enucleation after delivery of interstitial fibrous

tumors, may be also followed by more or less abundant hemorrhage, occasioned by laceration of a portion of the uterine tissue which separates the fibrous body from the cavity of the organ.

Dr. Forget observes that hemorrhage has an occasional source in the fibrous body itself; he adds that Lisfranc, in his lectures, insisted particularly upon this form of fibrous polypus, the special structure of which renders it liable to bleed, and when complicated with pregnancy is extremely formidable.

Investigating the question of the influence of fibrous bodies upon miscarriage, and rupture and version of the uterus, Dr. Forget admits the rare occurrence of these accidents in connection with this cause; uterine inversion, however, occurs, and as may be readily comprehended, with greater frequency in cases of intra-uterine polypi than in those of interstitial fibromata. The question is raised whether the medical attendant ought or ought not to advise against marriage a female affected with uterine fibrous growths. Dr. Forget, making some formal reservations on this point, seems inclined to forbid marriage by reason of the accidents of dystocia, the frequently fatal hemorrhage, etc., to which the woman may fall a victim during labor or after delivery.

In dealing with the proper polypi of the uterus, the author makes a division of these into cellulo-vascular and fibrous polypi. He cites a case reported by Lisfranc of a cellulo-vascular polypus having brought about a miscarriage after frequent and profuse hemorrhages.

Fibrous polypi, the author states, vary in size, are sometimes very large, and may be seated in the vulva, vagina, or uterus. They cannot interfere with pregnancy, and present but a slight obstacle to delivery.

Fibrous polypi contained within the uterus comport themselves in the same way as the fibrous bodies; like the latter growths they oppose the contraction of the uterus upon itself: in addition, from the vascularity with which they are sometimes endowed to a high degree, they may become the source of serious and often fatal hemorrhage.

Dr. Forget terminates his memoir with the following conclusions:—

1. Fibromata in all their varieties of form, size, and seat, form no obstacles to conception.

2. Polypi complicating pregnancy, even when they are voluminous, do not generally stand in the way of the evolution of this process, and may present but a feeble obstacle to delivery.

3. Polypi may occupy the vagina or be contained within the uterus at the time of delivery.

4. Polypi which are seated in the passage of the vulva constitute a source of danger to the life of the infant. Intra-uterine polypi, on the other hand, are dangerous to the mother, in consequence of the hemorrhage which they may set up.

5. Intra-uterine polypi are more readily eliminated than fibrous bodies at the time of delivery; their form, and the small size of the pedicle, renders them independent of the tissue of the uterus.

6. Inversion of the uterus after pregnancy, when complicated with a fibrous growth or polypus, may be the result of uterine contractions, and also of irrational manœuvres exercised upon the foreign body.

7. The question of the fitness for operation when a fibrous body or polypus is presented after delivery in a condition accessible to instrumental working, forms a problem which may be resolved in various ways.

8. When the womb is firm and surrounds the body contained within its cavity without giving rise to any serious hemorrhage, it is wise to abstain from all attempts, and to wait until the uterine conditions special to the pregnant state have ceased. The same course should be followed in a case of intra-vaginal polypus.

9. When a fibrous polypus gives rise to a serious hemorrhage, or forms an obstacle to the passage of the fœtus, thus constituting sources of danger, surgical interference is imperatively demanded.

10. A polypus may be tied, excised, or even twisted away, either directly after delivery or at a later period, without being followed by any bad symptoms; the single ligature, however, if the polypus be small, or the ligature and incision

when the growth by its weight occasions by its dragging very severe pain, constitute the best method of treatment. Excision must be rejected in all cases where the patient has been exhausted by hemorrhage—the smallest loss of blood may be fatal; and even when this antecedent has not existed, the ligature is still indicated, for it has been demonstrated by experience that in operating on a polypus a short time after delivery, a greater risk is run of meeting with large bloodvessels in the pedicles, than when the uterus has not been recently modified by pregnancy.

ART. 277.—*On Fibrous Growths of the Uterus complicating Pregnancy and Delivery.*¹

By Dr. DEPAUL.

(*Gazette Hebdomadaire*, No. 34.)

Fibromata are parasitic bodies which are developed in the uterine tissue; they are unprovided with vessels and nerves, and are nourished through imbibition. Their structure is made up of a number of smooth muscular fibres, and fibres of connective tissue, and some fibro-plastic tissue and amorphous granular material.

What influence is exercised on pregnancy by pedunculated or interstitial peritoneal fibromata? As a rule they do not oppose pregnancy. But it is not a matter of indifference whether these peritoneal fibromata be pedunculated or furnished with a broad base. Those which are pedunculated do not prevent the development of the uterus; those with a broad base may produce disturbances, prevent the development of the uterus, set up slight pain, and sometimes lead to abortion. Peritoneal fibromata may cause metritis. M. Guéniot has published a case of this kind; peculiar symptoms are often observed, which seem to correspond to an inflammation of the uterine tissue, corresponding with pregnancy.

Pregnancy generally follows its course and attains its full term, when the woman may be spontaneously delivered. But this does not occur always. Fibrous growths sometimes undergo enormous development, and when they exist in the pelvis may close it, producing compression of the bladder and rectum, and leading to bad results.

What is the influence of pregnancy upon fibrous growths? M. Guéniot thinks that they do not undergo much increase in size under the influence of pregnancy, and he asserts that their consistency is not modified during gestation. M. Depaul does not agree with these views, and appeals to general surgical experience to support him. He has often observed a retention of urine in the subjects of uterine fibromata during a menstrual period, and thinks that the growths are at this time increased in volume. It is a rare occurrence, according to Dr. Depaul, for an interstitial fibrous growth or a pedunculated tumor *not* to increase during pregnancy. M. Guéniot's observations were generally made at the end of pregnancy on females whom he had no opportunities of seeing before or since the period of that condition.

Some years back Prof. Depaul had an opportunity of examining a lady who suffered from disturbed menstruation. The neck of the uterus had undergone some changes, and the womb itself seemed larger than when in its normal condition. In its anterior wall existed a small fibrous tumor of the size of the ingual phalanx of the thumb, and with a broad base. At the end of one month the fibrous growths at the uterus were found to be elevated. Pregnancy was diagnosed. At a later period Professor Depaul revisited the lady, who was six months advanced in pregnancy, and found that the tumor had increased in size; at the time of delivery it was as large as an orange. Subsequently, after delivery, it became smaller and regained the dimensions first described.

In the year 1867, Professor Depaul was called in by M. Rotureau to a lady, aged thirty-one years, who had been pregnant for about four a half months.

¹ Communicated to the Société Impériale de Chirurgie.

Above the pubis was a small tumor similar to that observed in the preceding case, perhaps somewhat larger, and with some tendency to become pedunculated. The growth was then of the size of a nut; at the time of delivery it was as large as the fist. Labor was natural. In the course of a few months the tumor was reduced to its former size.

Professor Depaul thinks with Danyau, Dubois, and Ashwell, that nothing has been better demonstrated than the influence exercised by pregnancy upon fibrous growths. This influence is not always the same. Sometimes there is an enormous increase in volume, but the progress may be less rapid. Fibromata are developed irregularly during gestation as they are when the woman is not pregnant. In a patient affected with three uterine fibromata, one of the growths scarcely increased, whilst the other became enormously augmented in volume. Pedunculated fibrous growths develop to a less extent than those furnished with broad bases. In the two cases previously spoken of, the tumors were rounded and not flattened; the increased development of fibromata which takes place during pregnancy is not due to the eccentric pressure of the ovum rendering the growth more appreciable by the touch.

ART. 278.—*Case of Cauliflower Excrescence.*

By A. JACOBI, M.D., Professor of Infantile Pathology and Therapeutics in University Medical College, New York, &c.

(*The American Journal of Obstetrics*, May.)

At a meeting of the New York Obstetrical Society, Dr. Jacobi presented a specimen with the following history:—

In July last a woman, eight months advanced in pregnancy (primipara), was admitted into the Lying-in Department of the Nursery and Child's Hospital. As is the rule in that institution, she was examined on admission by the touch and with the speculum. The house-physician observing through the speculum a peculiar discoloration of the cervix, called the attention of Dr. Jacobi to the appearance. Dr. Jacobi found the cervix short, broad, and soft, the os being patulous, so that the finger could easily reach the os internum and touch the membranes.

Through the speculum the part presented a grayish-white appearance, resembling the cauliflower cancrroid. It bled readily when touched, and quite freely on the removal of a small piece for examination. Under the microscope it was seen to consist almost entirely of cells, mostly large pavement epithelial and some spindle-shaped and smaller cells, a large amount of granular detritus, and spherical corpuscles inclosed in masses of concentric fibres. There could be no doubt that it was papillary growth of the kind known as cauliflower excrescence.

Dr. Jacobi determined to induce premature labor at once, with a view to the removal of the diseased part as soon as possible after delivery. He did not deem it safe to allow the woman to go her full time, lest, on account of the physiological congestion of the womb and its rapid development at this period, the disease should advance, *pari passu*, and grow to such an extent as to greatly imperil, if not destroy, the chances of entirely removing it. He at once introduced his hand, turned, and delivered, the whole process being accomplished in about fifteen minutes.

To lose no time, ten days after delivery, Dr. Jacobi proceeded to remove the diseased cervix. It was drawn down with great difficulty; and with the assistance of Dr. Guleke he succeeded, after numerous failures and the destruction of several wires, in encircling part of it with the galvano-caustic wire, and removing portions of the diseased mass. When it was no longer possible to remove any more in this manner, the olive-pointed galvano-caustic iron was applied to what remained of the cervix, and its destruction effected in this way. The patient recovered well, after the operation, and was seen by Dr. Jacobi only a few days ago. He found, on examination, the cervix entirely gone, the uterus measuring about an inch and five-eighths in length. The cicatrix was

smooth and firm, and the general health of the woman quite good. There was not light enough on this occasion for examination with speculum. The patient has menstruated since the operation.

ART. 279.—Treatment of Uterine Cancer by Carbolic Acid and Glycerine of Tannin.

By W. PLAYFAIR, M. D., M. R. C. P., Assistant Obstetric Physician at King's College Hospital.

(*The Practitioner*, August.)

Dr. Playfair reports the encouraging success which he has obtained from the application of this treatment. He mixes glycerine of tannin and carbolic acid in equal proportions, and applies a pledget of cotton wool, soaked in the mixture, to the cervix uteri. In the first case in which he applied it there had been irregularly recurring hemorrhage; the application of perchloride of iron checked this, but four months later the bleeding recurred, and the disease was now found to have made great progress, the cervix being extensively infiltrated with malignant deposit, and general cachexia having appeared. The new remedy was now applied on the cotton wool, which was drawn out of the vagina with a string, and resoaked, twice a week; the vagina was also washed out twice daily with a tablespoonful of the mixture in a pint of water. Fœtor entirely disappeared, and the hemorrhage has never recurred; the patient has gained flesh, and her complexion has improved. Similar success in removing fœtor and restraining hemorrhage has attended Dr. Playfair's application of the remedy in several subsequent cases of malignant uterine disease; and though this be only a palliative measure, yet it is no trifling matter to produce such a considerable improvement in the health and comfort of such patients.

(C) CONCERNING THE DISEASES OF CHILDREN.

ART. 280.—On Bronchitis Sicca in Children.

By Professor STEINER, of Prague.

(*Jahrbücher für Kinderheilkunde*, 1868; *Schmidt's Jahrbücher*, No. 7, 1868.)

The dry catarrh of the air-passages, occurring not unfrequently in adults, has already been recognized and fully described by Laennec; but this observer found that the affection had been scarcely mentioned in the literature of children's diseases. Professor Steiner, in his article, details the information on this subject which he has had opportunities of gaining. His observations relate only to such cases as those of dry catarrh in children, which is either spontaneously developed, or the propagation of which from the coarser to the finer bronchi, can be readily demonstrated; none of the affected children had previously suffered from whooping-cough, and on post-mortem could no other disease be discovered than the morbid changes set up by dry catarrh of the air-passages.

Post-mortem appearances.—On opening the thoracic cavity the lungs were found distended; these viscera were of a dark-red color, and marked at their posterior and depending parts by some patches of atelectasis; the rest of the pulmonary tissue contained air, and at the margins and on the surfaces of the lungs were emphysematous swellings; on section the pulmonary tissue was found to be dark in color, but otherwise normal. The mucous membrane of the bronchi, from the bifurcation to the smallest divisions of the air-tubes, was unusually hyperæmic throughout, much thickened, but still uncovered by secretion; only in some of the small bronchi was there found a small quantity of tenacious transparent secretion. The lymphatic glands situated along the trachea were hyperplastic, some of these being in a state of caseous degeneration. In addition to these appearances there was venous stasis in the menin-

geal vessels, and also some serous effusion into the subarachnoid areolar tissue and the ventricles; there was general anæmia.

Symptomology and Course.—The most characteristic symptom is the laborious breathing, which during expiration is very evident. In the children observed by Professor Steiner, none of whom were more than four years of age, it was frequently noticed that the respirations were as high as 40 and 48 in the minute; the highest number was reached before a fit of coughing, and in the course of the night. The expiratory murmur is always harsh, and at times may be heard at a distance; it is either a short and spasmodic, or a protracted wheezing sound. The special and accessory muscles of respiration, in consequence of the dyspnoea, which sometimes increases to pronounced asthma, become more or less hypertrophic. Additional characteristic signs are frequently repeated irritation of the air-passages, and actual attacks of coughing, frequently severe, which are similar to those of whooping-cough, except that there is an absence of the spasmodic inspiration, the mucous gurgling, the vomiting, and the typical course of the latter affection. These attacks of coughing last from some seconds to several minutes. The cough is perfectly dry, whistling, and without mucous gurgling; sputa are never expelled from the bronchi, even after a long continuance of the affection. Percussion gives but negative results; on auscultation is found merely a harsh vesicular murmur, and dry crepitation; only towards the end of life does the vesicular murmur become gradually weaker. The affection follows its course with very slight, or even with no fever; the temperature is sometimes below the standard. The pulse is generally accelerated and small. After a long duration of the affection, symptoms of blood-stagnation appear, especially in the cerebral region; the children become indifferent, helpless, and restless; afterwards death is foreboded by partial and general convulsions, and finally occurs among all the phenomena of hydrocephalus, and after the development long before of a condition of marasmus.

Dry catarrh of the lungs almost always results in death; but in all cases continues, with occasional temporary improvement and progressive deterioration, for several months. In all the cases observed by Professor Steiner the disease was developed spontaneously, and was not the result of an emphysema; the patients belonged to the poorer classes; in two cases it seemed probable that the development of the disease had been favored by residence in an unhealthy, dark, and damp cellar; in another cases there were traces of rickets; in one other instance the lesion was attributed by the mother to a previous attack of measles. In none of the cases could Professor Steiner gather either from the history of the patients or from objective signs that there had been whooping-cough, cardiac affections, tuberculosis, scrofula, pneumonia, or stenosis of the superior air-passages.

The therapeutical indications presented by the anatomical conditions and the symptoms of the diseases are the following:—

1. To remove the hyperæmia and swelling of the bronchial mucous membrane.
2. To excite moderate secretion.
3. To alleviate the laryngeal irritation, the dyspnoea, and the asthmatic attacks.

Professor Steiner has frequently observed temporary amelioration after the removal of the patient from an unhealthy residence to the hospital. The children of people in good circumstances should be carried in the winter to some southern climate, and during the summer be allowed to breathe moist warm sea air. In default of this last means of treatment, Professor Steiner orders the inhalation of simple aqueous vapor; alkaline mineral waters, either alone, or combined with milk or whey, are recommended. No result is to be expected from the use of expectorants. On the other hand, such stimulants as benzoin, liquid ammonia, and tincture of sesquichloride of iron, are occasionally of service for relieving the dyspnoea.

ART. 281.—*Asphyxia of a New-born Child produced by a Congenital Bronchocele.*

By Prof. C. HECKER.

(*Mon. f. Geburtsk.*, xxxi. 2 u. 3, 1868; and *Schmidt's Jahrbücher*, No. 8, 1868.)

On the 22d of June, 1867, a woman thirty-nine years of age, and affected with a considerable tumor in front of the neck, was delivered of her fourth child, the vertex of which had been presented. This child, a male, and weighing seven pounds, cried several times after birth, but soon after division of the umbilical cord suddenly expired, and, in spite of very energetic attempts to restore life, could not be made to breathe again.

The supposition that a large congenital bronchocele, which was at once apparent, had obstructed respiration, was completely proved by the post-mortem examination. The thyroid gland was found very much enlarged; it closely surrounded the trachea, and extended backwards between this tube and the œsophagus. The gland weighed 41.6 grammes, whilst, according to the estimates of Buhl, its mean weight is 7.78 grammes, and its maximum weight 24.8 grammes; the thyroid body in this case, then, weighed nearly six times the mean weight of the normal gland. The tissue of the gland was healthy, and in a condition of simple hypertrophy. It was readily perceived that great pressure had been exerted by the bronchocele on the trachea, for the tube in its passage through the gland was flattened to a great degree, and its calibre very much diminished.

The thymus gland weighed 9.6 grammes, the mean weight being 8.42 grammes, and thus had not increased in size; the lungs contained air, and, in consequence of the forcible attempts made to introduce air, were very emphysematous.

ART. 282.—*Treatment of Croup.*

By A. JACOBI, M.D., Professor of Infantile Pathology and Therapeutics in the University Medical College, New York.

(*The American Journal of Obstetrics*, May.)

At a meeting of the New York Medical Society, Dr. Jacobi remarked, that the remedies recommended for croup are as numerous as those against any known disease. From this alone we might infer how little reliance is to be placed upon any of them. The less curable any malady, the greater the number of remedies. The reason why so many different remedies have been extolled for this affection is to be found in the number of different morbid conditions which have been included under the term croup. Of this disease there are many different forms, ranging from simple catarrhal inflammation to the very fatal membranous form occurring in diphtheria. Each of these different forms will require a somewhat different mode of treatment. They all, however, have one symptom in common—some obstruction to the passage of air through the larynx. The use of emetics he has seen attended with beneficial results in a certain number of cases, more particularly of the catarrhal form. Also in some cases of the same kind in which fibrinous deposits have taken place, they seem to be serviceable by equalizing the circulation and diminishing the swelling of the mucous membrane and vocal cords. But in cases of croup occurring in diphtheria, with the constitutional disturbance which exists in that affection, emetics are only productive of mischief. Possibly, even in these cases, they may be resorted to to remove a membrane already detached or loose, but only when the evidences of such detachment are unmistakable, for the results of post-mortem examination show how closely adherent these membranes commonly are, and how little we can hope to detach them by emesis. As to the choice of emetics, he would prefer sulphate of zinc or of copper. Tartar emetic is too prone to produce troublesome or even dangerous diarrhœa. The

continued use of sulphate of copper in small doses after its first emetic action, though recently again recommended by high authority, has never in his experience been attended with any beneficial results. Muriate of ammonia is not deserving the encomiums that have been lavished upon it. Although it may be, and probably is, serviceable in liquefying the secretions, and thus favoring their expectoration in cases of catarrhal inflammations of the air-passages generally, yet in true croup it is probably of no service whatever. In Germany it is a remedy so common in use, that when a physician is at a loss what to prescribe, it generally presents itself as the most innocent medicament that he can resort to, and this circumstance perhaps best indicates its real value. The chlorate of potassa, or its equivalent, the chlorate of soda, he frequently gives, partly because he *must* give something, and partly because of its general antistomatitic properties. It is generally serviceable in most inflammatory affections of the mouth and throat, and helps to sustain the strength of the patient. Mercurials are probably worse than useless. He never resorts to them. Respecting inhalations, and topical applications of heat and cold, we must remember that we are dealing with a local inflammation in which there is a dilatation of the vessels, and a constant formation of new cells taking place, and we must therefore guard against the use of any measures that may tend in any way to increase or favor this morbid condition. Warmth, therefore, should be avoided as tending to promote dilatations and cell-formation, and cold should be preferred. The constant application of ice to the larynx may be productive of much benefit in a certain number of cases. The inhalation of warm vapor does not appear reasonable or likely to be of any service. There is already too little air entering the lungs, and saturating the atmosphere with moisture must lessen even this little.

The application of nitrate of silver to the false membrane, although at one time much used by him, he does not consider to be of any service. Under any plan of treatment the mortality in croup is very great, rising as high as ninety or even ninety-five per cent. in severe epidemics, and seldom if ever falling below seventy per cent. Since then so large a proportion of cases are inevitably fatal under any of the plans of treatment that have been proposed, we should look with great favor on any procedure which promised to save even a small per centage of the cases that would otherwise certainly die. Such a procedure we find in tracheotomy, which, although commonly resorted to only in articulo mortis, has yet saved more lives than all other methods of treatment combined. From a number of statistics cited by Dr. Jacobi it appears that even in very bad cases tracheotomy is successful in about twenty per cent., and when resorted to in the earlier stages the percentage of successful cases rises as high as from twenty-seven to forty-five per cent. In his own practice he had saved thirteen out of sixty.

Dr. Krackowizer had operated probably some sixty times, with about the same percentage.

Dr. Krackowizer's Statistics.—Operations of tracheotomy for croup, 56; deaths, 40; recoveries, 16; total, 56.

Causes of Death.—Asphyxia during operation, 1; granulations from cicatrix, 1; exhaustion and pulmonary oedema, 4; infections diphtheria, 3; scarlatina, 1; descending croup and bronchitis, 30; total, 40.

Dr. Voss had operated about fifty times; the percentage of his earlier cases being even much larger than this.

These results should leave no doubt as to the very great value of this operation, the only indication necessary for its use being obstruction of an inflammatory character in the larynx, threatening death. Scarcely any condition contra-indicates it, not even the presence of pneumonia. As to the objection that it is useless when the membrane extends below the larynx into the trachea and larger bronchi, he would only state that we have no means of determining the presence of false membrane below the larynx, and ought not to be deterred from the operation by a mere conjecture.

ART. 283.—*On Progressive Fatty Muscular Atrophy of Infancy.*

By Dr. DUCHENNE, of Boulogne.

(Gazette des Hôpitaux, No. 105, 1868.)

Dr. Duchenne reports three additional cases of progressive muscular atrophy, occurring in these instances in members of the same family. A boy, aged nine years, was brought to him with all the symptoms of this affection well marked, particularly the peculiar expression of the face due to immobility of the motor muscles of the lips. It was subsequently discovered that an elder brother, aged fourteen years, was affected with weakness of the right arm owing to advanced atrophy of the serratus magnus, the deltoid, the lower two-thirds of the pectoralis major, and some other muscles of the trunk. The mother of these two boys was also the subject of atrophy of the muscles of the right arm, particularly the deltoid and serratus magnus; this she stated came on at the age of thirteen years. The following clinical facts were presented by these three cases:—

1. That progressive fatty muscular atrophy commenced with two boys in infancy by attacking the motor muscles of the lip, which became atrophied in varying degrees; that the affection then remained stationary for some years, and afterwards started again upon its progressive and invading course, and attacked the muscles of the trunk; that these two cases consequently accord with fifteen others previously reported by Dr. Duchenne, in order to demonstrate that fatty muscular atrophy of infants commences and progresses in this manner.

2. That these two cases of progressive muscular atrophy were transmitted by inheritance from the mother, who had herself been the subject of the affection from the age of thirteen years. This fact, added to other analogous cases previously reported, shows that muscular atrophy of infancy is generally hereditary.

3. That this progressive fatty muscular atrophy of infancy had not attacked a third child (a girl), who in her physiognomy and general strength resembled her father, a very powerful and well-built man; this recalls an analogous clinical fact, in which the germ of this hereditary affection attacked but two children out of five, and in which the father himself had transmitted this germ some years before he himself presented any external manifestations of it.

ART. 284.—*On Hot Baths as a cause of Trismus in New-born Infants.*

By Dr. KEBER.

(Monats. f. Geb., June; and British and Foreign Med.-Chir. Review, Oct.)

It was observed that a large number of cases of tetanus had occurred in new-born infants in the town of Elbing. It was further found that almost all these cases had arisen in the practice of one midwife. Inquiry was instituted. It appeared that during 1864 and 1865 this midwife had attended 380 labors with a result of 99 cases of tetanus in the children! It further appeared that hardly any cases occurred in the practice of the eleven other midwives in the town. Dr. Busch, a physician in the town, who was called in to several of the cases, thus describes the symptoms:—

The first was the child's refusing the breast. This never occurred before the third day from the birth, most frequently on the fifth or sixth day, and once on the tenth. If the finger is at this time inserted between the jaws, stiffness is felt. The child cries, and the features contract spasmodically. In twelve or fourteen hours these symptoms are more marked. After a warm camomile bath the cramp subsides; the child sleeps quietly, but its breathing is scarcely visible. Presently the jaws cannot be separated. The slightest touch evokes spasms in the face and limbs. The fingers are held fast in the palm, the thighs

are bent upon the abdomen, the muscles of the abdomen are hard. Warm baths bring no more relief. Later, it is not necessary to move the child to cause spasm. It is enough to touch the bed or to clap one's hands. The child becomes in the fit blue in the face, cries plaintively, and foams at the mouth. Death usually ensued on the third or fourth day. Shortly before death the convulsions ceased, the respiration, which had always been regular, became shorter, and at length ceased without signs of dyspnoea. The rigor mortis was very strong, but did not last long. Dr. Busch never observed inflammation of the navel, or of its vessels.

The practice of the midwife in the conduct of the labor and the management of the child was minutely observed. The conclusion formed was that she washed the child in water that was unusually hot. She was cautioned to use a thermometer, and not to exceed a temperature of 28° C.

Whether this was followed by the disappearance of tetanus is not reported.

[In the "ABSTRACT OF THE MEDICAL SCIENCES" (vol. xlvii. p. 259), reference is made to a prescription recommended by Dr. Condie, in the last (the 6th) edition of his *Treatise on the Diseases of Children*, as one particularly well adapted to counteract habitual costiveness, &c., in infants. By turning to the work of Dr. C. (page 224), it will be found that, in copying the prescription, the editor of the "ABSTRACT" has omitted to state that the prescription referred to is to be divided into twelve doses, to be given at intervals of three hours.]

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THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BEING
A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,
AND OF
THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*On the Influence of Weather and Seasons upon Public Health.*

By EDWARD BALLARD, M.D.

(*Medical Times and Gazette*, October 17.)

THIS paper is in continuation of a former paper in which the influence of a rise of mean temperature in producing an increase of general sickness, and of a fall in producing a decrease of general sickness, was established, as well as the limits within which this operation is exerted. The question now discussed is whether the influence of a rise or fall of mean temperature is similarly exercised in the colder and warmer seasons of the year. Drawing a line at 50° of mean weekly temperature, the author tabulates the results of his observations as to increase or decrease of sickness with rises or falls of mean temperature, as in his former communication, keeping separate the 191 weeks of which the mean temperature was below 50° , and the 198 weeks of which the mean temperature was 50° and upwards. It is observable that the two sets of tables thus constructed unite in confirming many of the inferences drawn in the previous paper. But then the fact comes out that, whether we regard the frequency with which increase of sickness occurs in association with rises of mean temperature, and decrease of sickness with falls, or whether we regard the clear gain by way of increase of sickness, as the result of the conditions operating in the weeks of rise, or by way of decrease in the weeks of fall, or the amount of increase or decrease of sickness in each set of weeks, the grand result is that, on the whole, the association of increase of sickness with rises of mean temperature and of decrease of sickness with falls is very much more marked in the *colder* than in the warmer seasons of the year. The author points out that this difference in result is probably in great measure due to the difference which exists in the diurnal range of temperature in the colder and warmer seasons—a subject which, however, he proposes to consider separately at a future time. The above points are fully wrought out in the paper, which concludes with a comparison of the frequency and force with which various supplementary meteorological conditions influenced the result of the rises and falls of mean temperature in the colder and warmer weeks respectively.

In discussing the influence of variations of daily range of temperature upon the fluctuations of general sickness, the first question which arises is this—whether a mere alteration in the extent of the range (irrespective of whether it is by way of increase or diminution) has any influence. The data in the possession of the author supply him with a record of 393 weeks, the fluctuations of sickness in which are known, as well as the mean daily range of temperature. The weeks are the same as those employed in his former paper, with the addition of four weeks in which neither rise nor fall of mean temperature was noted.

The author infers from his tables and the calculations based upon them that slight (under 2 degrees) and moderate (under 5 degrees) alterations of range tend to promote decrease of sickness, and so are favorable to public health; while, on the other hand, considerable alterations of daily range (5 degrees and upwards) tend to increase sickness, and so are detrimental to public health. Inquiring next whether the result of alteration of daily range is the same whether the alteration be by way of increase or of diminution of range, the conclusions arrived at are—1. That an increase of mean daily range, regarded generally, was in the weeks tabulated promotive of the occurrence of a decrease rather than of an increase of sickness; and, on the other hand, that a decrease of mean daily range was, on the whole, promotive of the occurrence of increase of sickness. 2. That, putting aside the weeks of slight alteration of range as those in which the effect of the variation of range was most likely to be disturbed by the predominant operation of other influences, there is reason to believe that a moderate increase of range promoted the occurrence of decrease of sickness more decidedly than did a moderate diminution of range; and 3. That a considerable increase of range was certainly not promotive of an increase of sickness, being apparently more or less antagonistic to it; while, on the other hand, a considerable diminution of range powerfully contributed to the occurrence of increase of sickness. The author then proceeds to inquire into the influence exerted by alterations of mean daily range upon the operations of rises and falls of mean temperature. Taking first their influence upon the operation of rises of mean temperature, which were shown in his former paper to promote increase of sickness, he infers from his tabulations that rises of mean temperature are assisted in their normal operation upon sickness by a simultaneous reduction of the daily range of temperature, and lessened in their normal operation by a simultaneous increase of the daily range of temperature; and that this fact is established by observing—1. That the clear gain by way of increase of sickness in the group of weeks in which rises of mean temperature were associated with reduction of daily range was greater, and in the group of weeks where the rises were associated with increase of daily range was less, than the relative extent of the rises might have been expected to occasion. 2. That the frequency with which increase of sickness occurred in the former group of weeks was greater, and in the latter group of weeks less, than the relative extent of the rises of mean weekly temperature might have been expected to occasion. 3. That in the weeks of increase of sickness there was plainly in operation some cause rendering the normal operation of the actual mean rises more powerful when associated with lessened range than when associated with increased daily range; and in the weeks of decrease of sickness there was also plainly in operation some cause of rendering the influences at work to produce this abnormal result less powerful in the weeks of diminished than in those of increased daily range. 4. That considering separately the weeks of rise in which the daily range was slightly increased or diminished, moderately increased or diminished, and considerably increased or diminished, the only exception to the above facts was found in the weeks in which the daily range was only slightly altered. In these the clear gain by way of increase was greater in the weeks of slightly increased than in those of slightly diminished range—this being due apparently to the more frequent operation of other causes of increase of sickness, as yet unconsidered by the author, in the former than in the latter set of weeks, and to the fact that when such causes did thus operate to augment the normal influence of the rise, they operated very forcibly. Next, as to their influence upon the operation of falls of mean temperature, which were shown in the author's former paper to promote decrease of sickness, he infers from his tabulations that falls of mean temperature are assisted in their normal operation upon sickness by a simultaneous reduction of the daily range of temperature, and lessened in their normal operation by a simultaneous increase of the daily range; and that this is established by observing—1. That the clear gain by way of decrease of sickness in the group of weeks in which falls of mean temperature were associated with reduction of daily range was greater, and in the group of weeks in which they were associated with increase of daily range was less than the relative extent of the falls might have been expected to occasion.

2. That the frequency with which decrease of sickness occurred in the former group of weeks was greater than in the latter—a fact partly accounted for, however, by the difference in the mean extent of the falls. 3. That in the weeks of decreased sickness there was obviously in operation some cause rendering the normal operation of the actual mean falls more powerful when associated with lessened than when associated with increased range. Other supplementary causes appear to have thrown into the shade the operation of alteration of range in those weeks in which increase of sickness abnormally occurred. 4. The exception to the above facts is to be found in those weeks in which the daily range was considerably altered. In these the clear gain by way of decrease of sickness, and the frequency of occurrence of decreased sickness, were both greater in the weeks of increased than of diminished range. This result was probably due to the overwhelming operation of other supplementary conditions not yet investigated by the author. Comparing now the influence of variations of mean daily range in the weeks of rise of mean temperature with that exerted in the weeks of fall of mean temperature, the author infers—1. That such influence is more obvious in the weeks of fall than in those of rise of mean temperature generally. 2. That this difference, more observable in respect of the amount of clear gain of increase or decrease of sickness than in respect of the frequency with which increase or decrease of sickness happened, probably resulted from the different frequency and force with which other more powerful supplementary conditions operated on the weeks of rise or fall respectively. 3. That in the weeks of rise these overwhelming supplementary conditions operated most obviously to disturb the result in the weeks of slight alteration of range, and in the weeks of fall most obviously in the weeks of considerable alteration of range.

ART. 2.—*The Treatment of Cholera and Diarrhœa.*

By Sir THOMAS WATSON, Bart., M. D., late President of the Royal College of Physicians.

(*British Medical Journal.*)

Sir Thomas Watson, M. D., whose lectures on medicine have most influenced the practice of this half century, writes in the *British Medical Journal*: "I find it necessary to modify considerably some advice which I formerly gave my auditors as to the treatment of a disorder which appears to be again increasingly prevalent throughout the country." The form and features of this dreaded pestilence have, he says, "been the same in all its visitations to this country. Must we still, as heretofore, make the mortifying confession that our art is unable to cope with it successfully? Not so, I trust. Among the many and discordant expedients which have been brought forward and fairly tried for the cure of cholera, one, long since suggested, and almost scornfully rejected, has emerged of late into clearer significance and more intelligible and ascertained value. I mean the method—recognized as legitimate and reasonable in various other maladies—of 'elimination,' of which the main advocate has been Dr. George Johnson, Professor of Physic in King's College." After commenting upon the facts and principles involved, Sir Thomas Watson lays down the following rules, in language partly his own and partly that of Dr. George Johnson: "Diarrhœa ought not to be neglected even for an hour. One important and guiding rule of treatment is not to attempt by opiates, or by other directly repressive means, to arrest a diarrhœa while there is reason to believe that the bowel contains a considerable amount of morbid and offensive materials. The purging is the natural way of getting rid of the irritant cause. We may favor the recovery by directing the patient to drink copiously any simple diluent liquid—water (cold or tepid), toast-water, barley-water or weak tea; and we may often accelerate the recovery by sweeping out the alimentary canal by some safe purgative, and then, if necessary, soothing it by an opiate. Castor oil, notwithstanding its unpleasant taste, is, on the whole, the safest and best purgative for this purpose. It has the advantage of being very mild

and unirritating, yet withal very quick in its action. A tablespoonful of the oil may be taken floating on cold water, or any other simple liquid which may be preferred by the patient. A mixture of orange juice or lemon juice with water forms an agreeable vehicle for the oil. If the dose be vomited it should be repeated immediately, and the patient should be still, and take no more liquid for half an hour, by which time the oil will have passed from the stomach into the bowels. Within an hour or two the oil will usually have acted freely. Then a teaspoonful of brandy may be taken in some thin arrowroot or gruel, and if there be much feeling of irritation, with a sense of sinking, from five to ten drops of laudanum may be given in cold water. These means will suffice for the speedy arrest of most cases of choleraic diarrhoea. If the patient have an insuperable objection to castor oil, or if the oil cannot be retained on the stomach, ten or fifteen grains of powdered rhubarb, or a teaspoonful of the tincture of rhubarb, or a teaspoonful of Gregory's powder, may be substituted for the oil. If the diarrhoea has continued for some hours, the stools having been copious and liquid; if there be no griping pain in the bowels, no feeling or appearance of distension of the intestines, the abdomen being flaccid and empty, and the tongue clean, we may conclude that the morbid agent has already purged itself away. There will therefore be no need for the castor oil or other laxative, and we may immediately give the brandy in arrowroot and the laudanum as before directed. The rule in all cases is not to give the opiate until the morbid poison and its products have for the most part escaped—not to close the door until the 'enemy' has been expelled. While there are some cases in which the evacuant dose is not required even at the commencement of the attack, there are many more in which the opiate is unnecessary in the later stage. In some cases of severe and prolonged diarrhoea it may be necessary to repeat the oil and laudanum alternately more than once at intervals of three or four hours. Practical skill and tact are required to discriminate these cases. It must be borne in mind that when the choleraic secretions are being actively poured out from the bloodvessels, the bowel, though it may have been completely emptied by a dose of oil, may quickly again become filled with morbid secretions, and hence the need for an occasional repetition of the evacuant dose. If the diarrhoea be associated with vomiting, this should be encouraged and assisted by copious draughts of tepid water. The vomiting affords relief, partly by the stimulus which it gives to the circulation, but mainly by the speedy ejection of morbid secretions. If there be nausea without vomiting, and, more especially, if the stomach be supposed to contain indigested or unwholesome food or morbid secretions, an emetic may be given—either a teaspoonful of powdered mustard, or a tablespoonful of common salt, or twenty grains of ipecacuanha powder in warm water. In all cases of severe diarrhoea the patient should remain in bed."

ART. 3.—*Causes of Cholera.*

By Professor PETTENKOEFER.

(*Medical Press and Circular*, May 12.)

Professor Pettenkofer gives the following as a summary of his elaborate investigations into the causes of cholera:—

"In my opinion four conditions are essential in order to bring about an epidemic of cholera:—

1. A specific germ.
2. Certain local conditions.
3. Certain seasonal conditions.
4. Certain individual conditions.

"I have not investigated the nature of the cholera germ as disseminated by human intercourse. I have only taken for granted that it exists in the intestinal discharges of persons coming from infected places. My own investigations have been chiefly confined to the second and third before mentioned conditions. Hitherto I have considered the human subject only so far as he is the bearer of the infecting matter of cholera or of the germ of this matter; and have with

facts contended against the pure contagionists, who declare that the infecting matter is produced by a process of multiplication within the bodies of those affected by the disease. My chief proofs of this have always lain in simple *facts* (independent of any theory) as to the spread of cholera over large districts. There are certainly *places* enjoying complete immunity from cholera; also *periods* of immunity. The development of epidemics, and the immunity of many places, is totally inexplicable, by the simple assumption of contagion from person to person. Observe the spread of epidemics along the course of railways and other ways of intercommunication. Nor are they to be explained by certain individual disposition of person (food, drinks, domestic arrangements, age, position, &c.); but the circumstances require, besides these, the existence of local and seasonal aiding causes, which have to be assumed.

"Are these in immediate relation to the cholera germ itself, or to the individual disposition? Facts speak in favor of the first opinion only. 1. Persons from an unaffected place going to an affected one are attacked quite as numerously and as soon as the persons who constantly reside in these places, 2. Cases are on record where a person from an infected district conveys (in a way not clearly ascertained) infecting matter in a place enjoying complete immunity from cholera; and there, by means of his limited amount of infecting matter, infects a few persons who themselves had never been subject to the local conditions of an infected place, and therefore could not have had their individual disposition altered by it. Facts imperiously demand that we should consider that the 'seasonal' and 'local' conditions are intimately connected with the cholera germ, although they may, in addition, be in a condition to act on the predisposition also.

"The infecting matter, in my opinion, is not a product of the human intestines, but of the soil. In so far as we consider the cholera germ of an organized nature and capable of various degrees of development, it is possible—nay, very probable—that there may be various degrees of infection. The distinction between cholera 'germ' and cholera 'infecting matter' must be noted. The cholera germ stands in the same relation to the infecting matter as the seed does to the fully developed plant."

ART. 4.—*Treatment of Gall-Stones.*

By T. H. BUCKLER, M.D.

(*The Lancet*, February 13.)

Dr. T. H. Buckler, of Baltimore, recommends the joint administration of chloroform and succinate of peroxide of iron for the dilution of gall-stones, and states that in his hands the remedies have proved very successful, the latter drug being administered for some time continuously.

ART. 5.—*Hydatid Tumor of the Liver treated by Simple Puncture.*

Under the care of Dr. DUFFIN, King's College Hospital.

(*The Lancet*, January 30.)

The following case aptly illustrates the value of the method of puncture with the small trocar in the treatment of cases of hydatid tumor of the liver:—

S. R., aged twenty-seven, a man of rickety build, but otherwise of a sound constitution, applied at King's College Hospital, on Oct. 13th, 1868, complaining of indigestion and aching pains about the right side and shoulder. On examining the spot indicated, the right inferior mammary and hypochondriac regions were found to bulge considerably, and the hepatic dulness extended vertically downwards from the nipple, over a space of nine inches and a quarter. The possibility of a hydatid tumor was at once opened up, but the necessity of great caution in the diagnosis became at the same time manifest, owing to the extreme deformity the thorax had undergone during childhood from the pro-

cess of rachitis, and from the existence of considerable lateral curvature of the spine. These rendered all transverse measurements next to worthless. Nevertheless, a relative increase of half an inch in the right semi-circumference could be established. This proved to be half an inch below the line of the costal cartilages. Much more valuable information was obtained on tracing the upper limit of the dull area. This was found to represent a curve, with its convexity directed upwards, and reaching its highest point at the fourth right rib, a little outside the nipple. From this, its greatest point of elevation, the line trended sharply downwards and backwards to the tenth rib, and downwards and inwards to the xiphoid cartilage. The lower edge of the liver was sharp and supple, and convex in the opposite direction. The summit of the bulge thus corresponded to the centre of the organ, and at this point an obscure sense of fluctuation could be detected. Beyond the pushing upwards of the right leaf of the diaphragm, no notable visceral displacement existed. Vesicular breathing could be traced to the upper edge of the dulness. The only annoyance complained of, was an indistinct sense of aching in the hepatic region. The inferior edge of the dull space was found to vary its position slightly with the movements of respiration and the change of posture of the patient, giving presumptive evidence of the absence of adhesions. The rest of the evidence was mainly negative. Neither ascites, jaundice, nor evidence of infection existed.

After a consultation with Mr. Henry Smith, Dr. Duffin requested that gentleman to make an explanatory puncture with a long, fine trocar and canula. Twenty-eight ounces of a clear, transparent, watery fluid were readily withdrawn. This proved to contain numerous echinococci and free hooklets. As soon as the jet of liquid began to slacken, the end of the canula was at once occluded with the thumb, and the instrument withdrawn. During the latter part of the operation, the patient complained of a deep sense of aching in the region of the liver. A flannel bandage was at once applied to fix the abdominal muscles, and a full opiate administered. About six hours later, the patient had two sharp rigors, and lay with his knees drawn up in dorsal decubitus. The belly generally was tympanitic, and somewhat tender. The aspect was that of shock; the pulse had risen to 104, the temperature to 100°. An additional opiate was given. A fair night followed; and the next morning the temperature had fallen, and the abdominal tenderness was less; his pulse, however, had risen to 120. On the second day from the operation, the pulse ratio began to slacken, and from that time forth he had no unpleasant symptoms. On the fifth day a physical examination showed a diminution of two and a half inches in the vertical dulness, and of half an inch in the semi-circumference. The man has continued under observation till the present time. The vertical dimension has since fallen an additional half inch; and he is completely comfortable.

Dr. Duffin remarked upon this case: "The only diagnostic difficulty which we had to contend with, consisted in the deformity of the chest by the rickety softening and subsequent distortion of its walls. It served to bring out in strong relief, the value to be attached to the great convexity of the upper line of dulness. This, together with the great increase of the vertical dimensions of the liver, the slight bulge below the costal cartilages, the almost painless character of the swelling, and the general good health of the patient, constituted the foundation of the diagnosis. In determining the propriety of an operation, the probable absence of adhesions had to be borne in mind; but if puncture with a very fine trocar be resorted to, I believe that little importance need be attached to that circumstance. With a few simple precautions, the chance of any hydatid fluid escaping into the peritoneal sac may be reduced almost to the vanishing point. One of the moments of greatest danger is that of the withdrawal of the canula. As it quits the liver charged with hydatid fluid it should be occluded with the finger, and so brought out loaded with its contents. At the same moment, the abdominal wall should be firmly pressed against the liver. The elasticity of the hydatid exocyst is so great that only an extremely minute portion of fluid is likely to follow the canula. The smaller the instrument selected, the less will be the chance of any hemorrhage; and it is further remarkable how tolerant the peritoneum is of blood as contrasted with other fluids. Another advantage of a very fine canula is, that the fluid leaves the

hydatid cyst very gradually. This will be obvious if we consider the vascularity of the organ implicated, and the changes in its relations that the withdrawal of a considerable amount of fluid must necessarily occasion. Neither is it necessary to evacuate the cyst completely. Even with a very partial emptying, it is probable that the elasticity of the exocyst can peel off and fold the endocyst so as to interfere with its vascular supply, and ultimately induce its degeneration. Next in importance to the method of the operation, stands the most complete rest of the abdominal viscera which can be obtained. Hence I would strongly recommend fixing the abdominal walls with a flannel bandage, and the immediate administration of a free opiate. In the instance before us some rigors, general abdominal tenderness, and slight febrile signs, ensued a few hours subsequent to the operation. Within twenty-four hours, however, all threat of danger had passed away. Something similar to this has been so frequently noted after this method of interference that it may be considered almost as the rule. Provided the temperature does not exceed 101° , I believe it need not alarm us. I am inclined to ascribe it to the great change in the relations of the portal system, which the decrease of pressure within the liver must necessarily entail. It is too transient and too frequently observed to be attributable to aborted peritonitis. According to the statistics collected by Dr. Murchison, a first puncture is also a final one six times out of seven. Should a second be requisite, no additional risk is involved in a repetition of the first process. If suppuration of the cyst supervene, free evacuation should of course be at once resorted to. The accident happened, according to Dr. Murchison's statistics, ten times out of forty-six, but even in seven of these, free emptying of the cyst was followed by a favorable result."

ART. 6.—*The Symptoms of Thrombosis of the Cerebral Sinuses.*

By DR. HUBNER.

(*Archives der Heilkunde*, ix. 5, 1865; *Archives Générales de Médecine*.)

After having analyzed the different works published up to the present time on thrombosis of the cerebral sinuses, Dr. Hubner gives a detailed report of a case in which the patient succumbed to a thrombosis of the sinuses, not diagnosed during life. The patient presented at first general head symptoms, and soon afterwards neuralgia of the right supra-orbital nerve, blepharoptosis on the same side, œdema of the eyelids, loss of hearing, and finally facial paralysis. on the right side, with blood stases in the corresponding frontal veins. All these phenomena were very transient.

Dr. Hubner thinks that the diagnosis of thrombosis of the cerebral sinuses should be based upon *three* orders of symptoms.

1. Stasis in the vessels situated on the proximal side of the point of obstruction.
2. Dilatation of the collateral veins.
3. Direct signs of the compression at the level of the seat of vascular obstruction.

The stasis in the vessels generally gives rise to slightly characteristic cerebral symptoms.

Venous dilatation may exist in the collateral vessels of the walls of the cranium, or rather it may show itself in the veins which unite the vessels of the face to those of the cranium. In the latter case, vascular dilatation has considerable diagnostic importance. In obstructions of the transverse sinuses one may observe dilatation of the emissary veins of Santorini and of the mastoid vein. The parietal veins also are dilated in cases of dilatation of the longitudinal or ethmoidal sinuses. When a thrombosis exists of the ophthalmic vein which carries to the sinus the blood of the frontal vein, of the bulb, of the eyelids, and the muscles of the eye, one may observe an injection of the skin of the forehead, with œdema of the eyelids, of the globe of the eye, and even of the muscles: hence doubtless the prominence of the eye described in cases of this kind.

The local symptoms are brought on by direct compression of the nerve trunks; this compression may be also produced secondarily through the cedematous venous walls. These facts are very clear in thrombosis of the cavernous sinus. In fact this region is traversed by the common oculo-motor nerve, the pathetic, the external oculo-motor, the ophthalmic branch of Willis, and even the branches of the great sympathetic.

In the case reported by Dr. Hubner, there was thrombosis of the superior longitudinal sinus, and of the transverse sinus, afterwards of the cavernous sinus on the right side, and finally of the corresponding ophthalmic vein.

The thrombosis commenced in the longitudinal sinus, and was continued into the transverse sinus; this vascular obstruction brought on an intense collateral stasis of all the sinuses at the base of the brain. The stasis thus produced in the cavernous sinus led to dilatation of the collateral veins of the face, and to compression of the nerves, including the great sympathetic. Thence dilatation of the cerebral arteries. When the thrombosis had extended as far as the cavernous sinus, the phenomena of stasis and compression diminished in intensity. It is easy to explain in this manner the mutability of the symptoms, which was indicated by Lebert as one of the characteristic phenomena of thrombosis of the sinuses.

ART. 7.—*On the Treatment of Scarlet Fever.*

By PETER HOOD, M.D.

(*British Medical Journal*, February 6.)

In the ordinary run of cases, Dr. Hood writes, the first symptom usually complained of is headache, next soreness and swelling of the throat, followed by vomiting; and we find that the afore-mentioned symptoms are relieved by the vomiting taking place. The healthy action of the liver is interfered with, and the bile, instead of taking its natural course, finds its way into the stomach, and is invariably found in the materials ejected. Hence the importance of giving an emetic at the onset of the fever, if vomiting have not occurred. We may to a certainty judge, for our guidance, of the presence of bile in the stomach by the appearance of the tongue; if this member be covered, or only partially so, with a brown fur, bile will be thrown up as soon as the act of vomiting occurs.

We sometimes meet with a case of continuous vomiting, attended with extreme irritability of stomach; this condition, if judiciously managed, is not fraught with danger, as there is more to be apprehended from the absence of vomiting than when it is in excess. The perverted course of the bile points to a defect existing in the liver, which defect is one of congestion. Here, again, we are called upon to assist nature in relieving this important organ; no medicine operates so beneficially in this case as a dose of calomel and scammony. And if we take the appearance of the tongue as our guide throughout the whole period of the fever, and when it is otherwise than perfectly clean, administer gentle alterative medicines to sustain the healthy action of the liver, we shall most effectually prevent dropsy from occurring, and avoid deafness and all the other sequelæ attendant on this disease.

When the stomach has been relieved by vomiting, either by the operation of nature or art, and the liver and bowels also by the administration of an efficient dose of medicine, it is then the proper time to avail ourselves of the antiseptic property of quinine, *which drug is, according to Dr. Hood's experience, as powerful in destroying the scarlatinal germ as it is potent in the cure of ague.* Dr. Hood does not hesitate to say that, if the previous injunctions as to the emetic and purgative are attended to, any medical man who has never before employed this medicine in the treatment of scarlet fever, will never employ any other when he witnesses the gratifying progress of a case only twenty-four hours after using it. He will find the pulse diminished in frequency, the soreness of throat and difficulty of swallowing scarcely complained of, obviating all necessity for the use of gargles, sponging, caustics, &c., the heat of skin most sensibly decreased, and the restlessness, frequently so distressing a symptom,

succeeded by a calm composure. In the worst forms of scarlet fever, in which the blood of the patient is in a dyscrastic state, indicated by virulent coryza, discharges from the mouth, eyes, and ears, owing to the disintegration of the mucous surfaces, it is imperative to administer iron with the quinine, and suitable doses of the tincture of sesquichloride of iron, or of the sulphate of iron, should be diligently persevered with; at the same time paying strict attention to procuring a daily alvine evacuation.

Dr. Hood next refers to one other subject connected with the treatment of scarlet fever, which he regards almost as important as the use of quinine itself. This is the disinfection of the sick-room by the employment of chlorine; and here he differs from what Dr. Budd's experience has led him to say on this subject.

Dr. Hood's experience of the beneficial effects of a free use of chlorine is directly opposed to Dr. Budd's views; and he is able to state from his own observation that, if this gas be properly used in the sick-room of the patient, *the contagion of scarlet fever will be confined to that room*. His method of using it is as follows: He directs large coarse towels to be saturated with a solution of chloride of lime, and hung over the backs of chairs, and a sheet to be hung in front of the bed-room door. The quantity required for disinfecting the room may be judged of by smell and taste on going into it. This process should be continued throughout the course of the fever.

ART. 8.—*On the Treatment of Scarlet Fever.*

By CHARLES T. THOMPSON, M.D., M.R.C.P.

(*The Lancet*, February 27.)

On the very first access of the fever, Dr. Thompson puts his patient into a warm bath, and repeats this as often as the strength of the patient will allow or the severity of the attack may require. The first effect of this treatment is to produce a soothing and refreshing feeling in the patient, to be followed soon by such an eruption on the surface, of so vivid a color and in such amount, as would astonish those who have never witnessed it. Thus one of the greatest dangers of this fearful disease—the suppression of the eruption—is escaped.

After the first or second bath the appetite usually returns, so by getting down light and nutritious food the means are afforded of supporting the strength of the patient during one of the most trying periods of the disease. By this treatment the excreta from the skin are removed as rapidly as they are deposited, doing away immediately with the source of infection, leaving no room for the dissemination of the disease. The desquamation of the cuticle is greatly promoted, it being removed in small particles, and never in large pieces.

The drying of the body after the bath is effected by soft linen cloths, sufficiently large to envelop the whole person, and with as little friction as possible; in fact, the surface is what may be called "dabbed" dry, as the excitement from friction of the skin often produces great mischief.

The irritation of internal organs is also at once relieved by this continual determination to the surface. And as the condition of the latter becomes more healthy, the nasal, renal, and alvine secretions, with those of the throat, are speedily deprived of their noxious properties, and quickly recover a healthy character, thus again removing additional sources of infection.

The fever rapidly subsides, and convalescence usually proceeds more or less quickly, according to the mildness or severity of the attack. Another advantage of this treatment is, that a very serious case is soon reduced to a mild one, and the patient recovers in less than half the usual time.

This practice Dr. Thompson has pursued for more than fifteen years, during which period he has attended many cases of scarlet fever; but has never lost a single patient from this disease, nor can he call to mind at this moment any one case in which the infection has been carried from the patient to any other individual.

During the convalescence of the patient the bath may be used daily, or every

other day, according to the feelings or wish of the patient; but its temperature should be gradually reduced, so as to invigorate and not exhaust, and also to enable the surface successively to resist the alternations of heat and cold to which the patient may be exposed in moving about from place to place.

The terrible sequelæ of this formidable disease are, Dr. Thompson adds, by the treatment above recommended, seldom if ever met with. No nurse or washerwoman has, to his knowledge, suffered from the performance of her avocations. Of course the necessary medicines must be administered as occasion requires.

ART. 9.—How to prevent Typhoid Fever (otherwise called Gastric Fever, or Low Fever) from spreading.

By WILLIAM BUDD, M.D.

(*British Medical Journal*, March 27.)

The means by which typhoid fever may be prevented from spreading are very simple, very sure, and their cost next to nothing. They are founded on the discovery that the poison by which this fever spreads is almost entirely contained in the discharges from the bowels. These discharges infect—1. The air of the sick-room; 2. The bed and body linen of the patient; 3. The privy and the cesspool, or the drains proceeding from them. From the privy or drain, the poison often soaks into the well, and infects the drinking water. This last, when it happens, is of all forms of fever-poisoning the most deadly. In these various ways, the infection proceeding from the bowel-discharges often spreads the fever far and wide. The one great thing to aim at, therefore, is to disinfect these discharges on their very escape from the body, and before they are carried from the sick-room. This may be perfectly done by the use of disinfectants. One of the best is made of green copperas. This substance, which is used by all shoemakers, is very cheap, and may be had everywhere. A pound and a half of green copperas to a gallon of water is the proper strength. A teacupful of this liquid put into the night-pan every time before it is used by the patient, renders the bowel-discharge perfectly harmless. To disinfect the bed and body linen, and bedding generally, chloride of lime or MacDougall's powder is more convenient. These powders should be sprinkled, by means of a common dredger, on soiled spots on the linen, and about the room to purify the air. All articles of bed and body linen should be plunged, immediately on their removal from the bed, into a bucket of water containing a tablespoonful of chloride of lime or MacDougall's powder, and should be boiled before being washed. The privy, or closet, and all drains communicating with it, should be flushed twice daily with the green copperas liquid, or carbolic acid diluted with water. In the event of death, the body should be placed as soon as possible in a coffin sprinkled with disinfectants. Early burial is on all accounts desirable. In towns and villages where the fever is already prevalent, the last rule should be put in force for all houses, whether there be fever in them or not, and for all public drains. As the hands of those attending on the sick often become unavoidably soiled by the discharge from the bowel, they should be frequently washed. The sick-room should be kept well ventilated day and night. The greatest possible care should be taken with regard to the drinking-water. Where there is the slightest risk of its having become tainted with fever-poison, water should be got from a pure source, or should at least be boiled before being drunk. Immediately after the illness is over, whether ending in death or recovery, the dresses worn by the nurses should be washed or destroyed, and the bed and room occupied by the sick should be thoroughly disinfected. These are golden rules. Where they are neglected, the fever may become a deadly scourge. Where they are strictly carried out, it seldom spreads beyond the person first attacked.

N. B.—A yard of thin wide-width gutta-purca placed under the blanket, under the breech of the patient, by effectually preventing the discharges from soaking into the bed, is a great additional safeguard.

ART. 10.—*On the Treatment of Typhoid Fever by Creasote.*¹

By M. G. PÉCHOLIER.

(Gazette Hebdomadaire, No. 13, 1869.)

M. Pécholier holds that the pathological modification of the blood in typhoid fever depends upon the action of an organized ferment, which works on the blood in the same manner as all organized ferments do, according to the demonstrations of M. Béchamp. Removing from the blood the materials of its nutrition, it gives up those of its own decomposition, and thus causes a radical change in this fluid.

Typhoid fever, according to M. Pécholier, is then the result of the modification produced in the living economy by vitiated blood and of the reaction of the economy against the cause of the disturbance.

These considerations have led to the proposal of a new therapeutical indication. Profiting from the works of M. Béchamp on the effects of creasote against the development of organized ferments, the author thought that if creasote could prevent the appearance of the multiplication of typhoid ferments, it would become a powerful remedy against so obstinate an affection to therapeutics. With this idea creasote was employed in sixty cases of typhoid fever which were treated in Hôpital Saint-Eloi during the three autumnal months of 1868. The patients took every day, by spoonfuls, a mixture containing three drops of creasote, two drops of essence of lemon, ninety grammes of pure water, and thirty grammes of orange-flower water; the essence of lemon acting as a corrective, and probably also as an adjuvant. At the same time two enemata, each containing from three to five drops of creasote, were administered daily.

The following were the results of these trials :—

In every case where the typhoid fever was in an advanced stage the therapeutical results were absolutely nil. In those cases, on the contrary, and these were numerous, where the patients had been admitted sufficiently early for one to deal with the commencement, or at least in a stage not far removed from this, the treatment acted very efficaciously in diminishing the intensity of the fever and shortening its duration.

From the facts and conclusions given in his paper, M. Pécholier has been led to suppose that creasote, when administered in small doses in mixtures, enemata, and probably also in the form of vapor, at the commencement of typhoid fever, and during the first days of its invasion, has powerful effects in diminishing the intensity and shortening the duration of the disease. He also adds, that this agent will doubtless prove radically efficacious when employed in large buildings as a prophylactic means at the time of an epidemic.

ART. 11.—*The Popular Idea of Counter-Irritation.*

By FRANCIS E. ANSTIE, M.D., F.R.C.P.

(Medical Press and Circular, March 3.)

At a meeting of the Medical Society of London, held February 15th, Dr. Anstie read a paper on the popular idea of counter-irritation. His own views presented a very complete though undesigned coincidence with those propounded by Dr. Dickinson in a late number of the "St. George's Hospital Reports." As to the value of counter-irritation in medical practice, proof is singularly deficient, and we are unable to explain the rationale of the process. The term itself is almost a relic of barbarism of the times when the human body was supposed to be ruled by intestine demons. The author passed in review

¹ Communicated to the Académie des Sciences.

the various structures which could be possibly influenced by the process known as counter-irritation.

1. The Bloodvessels.—These could only be affected within a narrow range. In the case of counter-irritation of joints, the operation might be explained on account of the connection of the superficial with the deeper vessels, and consequently the depletion of one being the depletion of the other; but in the case of counter-irritation of the chest for the possible relief of an internal congestion, no such explanation can be given.

2. The Nerves.—The difficulty here is the fact, taught by ordinary experience, that peripheral irritation is more productive of morbid than of beneficial results.

3. The Absorbents.—Here the action must be almost wholly a bad one. The author condemned the routine practice of blistering. The foundation of it was too often the lingering love of something like a charm.

ART. 12.—Remarks on the Natural History of Rheumatic Fever.¹

By WILLIAM W. GULL, M.D. and HENRY G. SUTTON, M.B.

(*The Lancet*, January 16 and 30.)

The authors are desirous of bringing under the notice of the profession a few more cases of rheumatic fever which have been treated by mint water, or, in other words, which have been allowed to run their natural course. They moreover desire to point out what appears to be the natural course of rheumatic fever with reference to the heart, and to show in what proportion of cases the heart became involved when rheumatic fever was treated by mint water. Lastly, to consider if there is any evidence to prove that the heart is more frequently involved when rheumatic fever is treated by mint water, or when treated by alkalies, by lemon-juice, or by blisters. This paper is based on twenty-five cases of rheumatic fever, twelve of which occurred in Guy's Hospital, most of them under the care of Dr. Gull, and thirteen occurred in the London Hospital, under the care of Dr. H. G. Sutton. The particulars of the twelve cases have been already recorded in the Guy's Hospital Reports, and the remaining thirteen cases are recorded in the present communication to the Society. Of these twenty-five cases, eighteen were females and seven were males. The average age of the patients was nineteen years. All the patients were suffering from their first attack of rheumatic fever, and the disease was well marked. The temperature of the body during the acute symptoms reached in some cases 104° and 103°; in other patients it was 101° and 102°. Taking an average of all these cases, the temperature was about 102° during the acute stage. The average duration of the acute symptoms, as estimated by the thermometer and general symptoms, was ten days. Taking all the cases that have been recorded by the authors, the average duration was 9.1 days. The total duration of the acute symptoms from their commencement, including the time the patients were ill before coming into the hospital, to their cessation, was on an average seventeen days. The authors next proceed to inquire if the duration of rheumatic fever is longer when treated on the expectant plan, or when treated by drugs; and they consider that no one plan of treatment has any great advantage as regards shortening the duration of the disease. Drs. Gull and Sutton agree with Dr. Barclay in considering that we are not yet in a position to say that alkalies exercise any influence in curtailing the duration of the disease. They are also of the same opinion respecting lemon-juice. With regard to Dr. Herbert Davies's blister treatment, they remark it relieves very much the pain and sufferings of the patients in some cases; but it does not appear to curtail the rheumatic process. And the authors remark, "Our cases appear to us to teach that the rheumatic process runs its course under the

¹ Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, January 12.

expectant treatment as favorably as under the treatment by drugs." Drs. Gull and Sutton next proceed to inquire what evidence there is to show that the drug treatment prevents the heart becoming diseased, and they give a detailed account of the state of the heart in their twenty-five cases. Every one of these twenty-five patients were suffering from their first attack of rheumatic fever, and twelve of the number had organic disease of the heart when admitted into the hospital; two had some, but not very well-marked, evidence of organic disease of the heart when admitted; and in eleven there was no heart disease on admission. No organic disease of the heart supervened while under treatment, and the heart was healthy when these eleven patients left the hospital. They remark the experience gained in these cases of rheumatic fever, which were allowed to run their natural course uninfluenced by drugs, tends to prove that, if patients are admitted into the hospital suffering from a first attack of rheumatic fever, and the heart is not diseased on admission, it will very rarely become organically diseased while patients are under treatment. The opinions of Drs. Garrod, Dickinson, Herbert Davies, Geo. Owen Rees, and Basham are then quoted to show that the heart did not, or very rarely did, become diseased when rheumatic fever was treated in the hospital by full doses of alkali, by blisters, by lemon-juice, or by nitrate of potash, and they observe: "It appears to us that there is not sufficient evidence to prove that any of the advocated systems of treatment have power to prevent the heart becoming diseased. In concluding that the treatment has prevented the heart becoming diseased, we have overlooked the fact that there might be no tendency at the time the patients were under treatment for the heart to become diseased, and our cases show that the good results which have been attributed to the influence of the remedies also occurred when no special remedies were used. Our cases, therefore, tend to teach that these good results were due, not to the drugs, but to the natural course of the disease." The authors then endeavor to show that when the heart becomes diseased in rheumatic fever, it does so at an early stage of the disease; and if it does not become diseased during the first week of the rheumatic fever, it rarely does so afterwards; and they give abstracts from twenty-two cases of rheumatic fever to demonstrate this.

Drs. Gull and Sutton's conclusions are as follows:—

That when the patient's heart was healthy on admission into the hospital, it was very rare for it to become organically diseased while the patients were under treatment by mint water—or, in other words, when the rheumatic fever was allowed to run its natural course.

That the evidence before the profession shows that the heart very rarely became diseased while patients were under treatment in the hospitals, and that this was the case when patients were treated by alkalies, lemon-juice, or by blisters to the joints.

That there is no sufficient evidence before the profession to prove that any of the advocated remedies have power to prevent the heart becoming diseased.

That in rheumatic fever the tendency is for the heart to become diseased during the first few days of the fever; and, should it escape the early days of the disease, there is each day a lessening tendency to its implication. Hence the cases would appear to show that, if at the end of the first week of the rheumatic fever the heart is free from disease, then there is little or no tendency for it to become diseased during the later weeks.

That the reason why the heart did not become diseased when rheumatic fever was treated by alkalies, blisters and by lemon-juice is to be attributed, not to the influence of the drugs, but to the natural course of the disease; for the patients did not come under treatment until the rheumatic fever had been going on some days, and until the period when the heart was most liable to become diseased had passed over.

That authors conclude by saying: "Hitherto the investigation into the therapeutics of the rheumatic process has been rendered all but valueless by the deficiency in preliminary data. At present, therefore, as regards treatment, our cases seem to show that we are limited to a careful regimen of the patient. Rest, mechanical and physiological—rest in the very outset of the disease. We ought not to wait until the rheumatic process has become well developed in

the joints. To regulate the temperature. To moderate excessive skin function by sponging the surface of the body. To allay pain, by placing the patient in an easy position, and sometimes by opiates. To sustain the organic nerve power by light diet, and occasionally by small doses of alcohol. To procure rest by the simplest means, especially avoiding such movements of the body as may excite the circulation. In fine, to place the patient in a physiological state of mean rest, if it may be so termed, of the nervous, the circulatory, the muscular and digestive systems. To do this fully will often tax all our energies, and require often more consideration than is requisite for prescribing any supposed appropriate drug treatment. We are therefore, at present, advocates of the exactest treatment of the patient under acute rheumatism, though we may doubt the value of so-called specific drugs."

The discussion was open by Dr. Fuller, who, after expressing his obligations to the authors of the paper, said that their researches as to the natural course of rheumatic fever rather served to confirm the old notion that its proper cure was six weeks in blankets; but, although they made out that nine or seventeen days was the regular course of the disorder, the facts were rather different. He had consulted Dr. Gull's second report, to which, however, he would not have referred had the facts of the present cases been read. The first was forty-two or fifty days under treatment, the second at the end of twenty-two days was doing well, the third went out at the end of forty-two days, the fifth was discharged at the end of fifty-four days, and so on. The course of the complaint was, therefore, to be five or six weeks under treatment. If they took the alkaline treatment, he found that the average of his own cases was seventeen or eighteen days till they left. Here the two systems were compared. As to the condition of heart, it was said that the liability to heart complications was greatest at first. This was quite true; but this was only saying that those parts which are most liable to attack are those which are attacked first. He must demur to the slight liability said to exist to such complications. When registrar at St. George's, during four years, many cases of heart complication occurred during the second and third weeks, and in his subsequent experience he had seen this over and over again. As to what was called rheumatic fever, at St. George's the term was limited to those cases characterized by fever, furred tongue, and quick pulse. The reason why alkalies were so much spoken against was that other affections, as pyæmia and acute gonorrhœal rheumatism, had been mistaken for the true complaint; for in these diseases alkalies were of no service, but under their use the patient got worse. There was no disease which yielded to treatment so readily as acute rheumatism. When he could number cures by the hundred without pericarditis, it was fair to conclude that the remedy was of some service. Alkalies were quite as good in private practice, and he would still believe in alkalies—they were almost specifics.

The President remarked that to the list of diseases confounded with acute rheumatism Dr. Fuller might have added acute periostitis.

Dr. Fuller: Yes, and many cases of gout.

Dr. Gull said when this question was taken up at Guy's he took great care to ascertain exactly the duration of the disease and the period of retention in the hospital. The only true criterion of the former was temperature; consequently Dr. Fuller's data were fallacious. They must have something more exact than the stay in hospital. Dr. Fuller also remembered many instances of heart affection occurring in the second or third week. Such complications require the greatest possible care in diagnosis when they enter; otherwise they may seem to be developed in the second or third week. This was another source of fallacy. In such cases as those reported the question of diagnosis might be put on one side. Gonorrhœal rheumatism does not occur in young girls of thirteen and fifteen.

Dr. Stewart remarked that about six years ago Dr. Gull narrated the facts of some sixty cases of acute rheumatism treated without internal remedies, and he wanted to hear more of his results; not getting these, he proceeded to make some investigations on his own account. He tried old plans, in some of which he had considerable confidence; but he found that he had little reason to be so, especially with regard to alkalies, for heart affection frequently came on when

under the full alkaline treatment. He had observed fifty-six cases of acute rheumatism in 1864-66, and, on reckoning, he found that the average number of days the cases were under treatment, whether with or without alkalies, was forty-two, and heart complications were also nearly equal in both. In future, observers should agree as to the termination of the disorder. In many of his own cases the temperature had not been carefully taken, which he regretted, as he looked on the temperature as of great importance. In many cases the acute symptoms came back even after the patient had left the hospital. The question was not to be decided by hundreds or even thousands of cases, but by prolonged study extending over many years, for the fever varied in different years. The eruptions were different, and sometimes the symptoms became typhoid. In these last cases he was glad not to have given alkalies. He had noticed in the *Guy's Report* that opium was sometimes given; he himself had never used anything except belladonna applied over the heart.

Dr. Gull said the opium was not given except when absolutely necessary, and then not against the rheumatic process, but merely to relieve pain.

Dr. Dickinson said that, as to heart disease, he doubted its frequent occurrence in hospital. Out of 113 cases of heart complication he had collected, 35 occurred in the hospital, or about 1 in 4. In 28 cases treated without alkalies 12 were seized in the second week, 7 in the third, and 6 in the fourth.

On the motion of the President, the debate was adjourned.

At the meeting on the 26th instant, Mr. Solly, President, in the chair, the adjourned debate on Dr. Gull and Dr. Sutton's paper was resumed by

Dr. Daldy, who asked what was intended by acute rheumatism, and pointed out that many forms of disease are included under the term as commonly employed. There is the lithiasis, for which Dr. Warren the elder said that six weeks was the best remedy. Were we asked to do nothing for this? Then there is a subacute rheumatism, which resembles remittent fever plus rheumatism, and tends to a natural termination in seven, fourteen, or twenty-one days. Some of the cases recorded by Dr. Gull, in the *Guy's Hospital Reports*, appeared to be of this character, and the natural duration of the disease would be in harmony with the results recorded.

Dr. Handfield Jones pointed out the great dissimilarity between different cases of acute rheumatism, and insisted upon the insufficiency of the phenomenal study of disease, unless it led on to something more. In rheumatism he knew only the phenomena, and treated them empirically. He thought that differences in the duration of the cases were partly due to differences in the recuperative power of patients. In cases where there was high fever and great formation of acid, acid sweat, acid mouth, acid urine, he thought alkalies were indicated, and he found them grateful and beneficial to the patients. Where there was not this tendency to acidity, he should not expect benefit from alkalies; and he had obtained good results by the use of quinine in large doses, twenty or thirty grains daily. Where there was much pain and swelling of the joints, blisters were useful; but not if there was much pain, with only slight swelling. Before attempting to arrive at results by statistical means, he thought we should determine whether what we call acute rheumatism was really one disease, in the sense in which scarlet fever or measles is a disease, or whether the term included several forms of morbid action.

Dr. Wynn Williams thought the discussion had wandered from the point, which was whether mint-water or medicine should be given to the patients. He took it for granted that every practitioner knew what was meant by acute rheumatism, and could distinguish it from subacute. He had himself suffered from acute rheumatism severely, and more than once. He had tried in his own case the do-nothing plan, and also the alkaline plan, and as the result of his own experience, he strongly advised the use of the latter. Much relief might often be given to painful joints by surrounding them with spongio-piline, soaked in a hot lotion containing subcarbonate of potash and laudanum.

Dr. Wilks thought it the duty of as many Fellows as possible to give their opinions upon the question. He was himself more or less in accord with the authors of the paper, both from his own experience and from the merits of the paper itself. After long experience, he still did not know what was the best

remedy, and found that the actual cases are far from being uniform. He had used all the suggested remedies in turn, and had found them all nearly equally successful. It was quite time that such a paper should be read before the Society. He remembered a discussion four or five years ago on the same subject, in which every speaker advocated his own remedy, and in which, if a non-medical visitor had inquired whether the disease would get well of itself, no one present could have answered the question. The method pursued by the authors was the only legitimate mode of investigation, and men who did not follow it rushed blindly into the use, in all cases, of any much-vaunted medicine of the day, such as bromide of potassium, carbolic acid, or what not.

Dr. Billing had hoped that before the last speaker sat down he would have given his opinion about the utility of giving mint water—that is, of doing nothing—in acute rheumatism.

Dr. Sibson inquired whether the treatment of the authors was indeed doing nothing? He thought not. He maintained that it was doing what was both more desirable and more difficult than writing prescriptions upon paper. It was placing and maintaining the patient in the condition most favorable to recovery, and shielding him from every hurtful external influence. Nothing required so much care and skill as to do no harm; nothing was more worthy of remembrance than the Hippocratic maxim, "To do good, if possible, but not to do mischief." Was there not a common element in all the methods that had been discussed? and was not that element the warmth and rest of the hospital, as contrasted with the conditions of the patient's home? For two years past he had treated all cases of acute rheumatism at St. Mary's without internal drugs, but with much care. Many years ago he had seen a patient walk convalescent out of St. George's to return two days later with a fresh attack; and he thought that the difficulty of enforcing proper rest after pain had subsided was one of the chief causes of relapse. At St. Mary's the chief points were—1. Absolute rest in bed, insured by swathing the arms and legs in cotton wool, and by supporting the feet by pillows, so as to relieve the ligaments from their weight. 2. The removal of the pressure of the bedclothes by a cradle. 3. The removing of local pain by smearing the affected joints with belladonna liniment, sometimes strengthened by rubbing down the extract in it. He attached little importance to the mere duration of the cases, and all importance to the safety of the heart. He believed that the plan he had laid down, by causing the heart to be called upon for a minimum of exertion, did preserve it from risk in a very great degree. If the articular pain were very severe, with much redness and swelling, he would apply a few leeches; if without much redness, he would inject a little morphia under the skin. He objected, on principle, for himself, to the peppermint water, not approving of pretended medication. For the anemia and weakness of convalescence he gave a little iron and quinine.

Dr. Billing rejoined that, although giving mint water was doing nothing, the plan they had just heard could not be so described. It was, however, not the work of a physician, but of a nurse. He was well assured that there was a better method of treating acute rheumatism than by the administration of mint water.

Dr. Anstie confessed himself to be without distinct belief in the efficacy of any treatment other than that described by Dr. Sibson. Still, the use of alkalis had not been scientifically condemned; and there appeared to be a good deal of evidence from experience in favor of them. Before giving them up as of no value, we ought to ascertain whether those who fail with them carry them far enough, and really produce alkalinity. In some hospitals, he knew, this matter was carefully tested; but he thought many failures were perhaps due to the treatment not being far enough. A friend, whose absence he regretted, and whose name, which in his absence he would refrain from mentioning, would be recognized as that of one of our best observers, was in the habit of using alkalis in very large doses, and with marked success. The use of nitrate of potash was sometimes erroneously described as alkaline treatment; this salt being in no therapeutic sense an alkali, but a sedative of very peculiar character, and owing any efficacy it might have to its sedative properties alone. He depre-

cated leeching under any circumstances, and thought the hypodermic injection of morphia the best method of relieving pain.

Dr. Leared inquired whether there was any reason to believe in the actual presence of lactic acid in the blood of rheumatic patients, and whether the perspiration became alkaline under alkaline treatment?

Dr. Reginald Thompson said that, as Registrar of St. George's, he wished to state that exactly 100 cases of acute rheumatism had been admitted into the hospital during the years 1866-67. Of these cases, 48 were admitted with heart complication, 21 were attacked by heart complication while in the hospital, and 31 remained free. Twenty-three were cases of pericarditis, of which 6 in each year came on after the patients had been three days in hospital. Excluding these patients, whose stay was protracted, the average stay in hospital was 22 days in 1866, and 26 days in 1867. Alkalies were given in large doses, and the urine was always rendered alkaline. The average stay in hospital of the cases complicated with pericarditis was 46 days; and in the cases in which the date of the commencement of the attack could be accurately determined, it occurred in one case on the 9th day, in two on the 11th, in one on the 22d, and in one on the 49th. The crisis of the disease was usually on the 7th, 8th, or 9th day.

Dr. Habershon observed that he thought the frequency of relapse bore some proportion to the depressing effects of previous treatment; and believed that he had seen morbid irritability and other bad symptoms in connection with the use of very large doses of alkalies.

Dr. Dickinson wished to supplement his observations in the former debate by saying that, when Registrar of St. George's, he saw a large number of cases of acute rheumatism treated by different methods, and under the care of different physicians. Of 110 patients treated by different methods, among which might be mentioned bleeding, and the use of mercury, of guaiacum, and of iodide of potassium, 35 had endocarditis or pericarditis, coming on in the house after treatment was commenced. Of 47 patients treated by alkalies, there was only one in whom the commencement of heart disease was discovered after admission. This was a case of pericarditis. Alkalies should be used with discrimination and care, and only in the cases of acute acid rheumatism, which are precisely those in which the heart is most prone to be attacked. He believed that the alkaline treatment shortened the duration of acute rheumatism to some extent, but that its great value was in the protection it afforded to the heart. He would be glad to hear how the hearts had fared among Dr. Sibson's patients at St. Mary's.

Dr. Sibson had not then strict statistics upon the point; but was able to say that he had never before had so small a proportion of cases of heart disease. Without comparison with the statistics of other hospitals during the same period of time, it would be impossible to say how far this might be due to the treatment. He had been astonished to find how few patients went out with apex murmur.

After some remarks from Mr. Macilwain,

Dr. Sutton briefly replied. He said that Dr. Fuller had complained of the omission of the dates at which the patients left the hospital. The dates were wholly unimportant, because some patients had been kept in hospital to test the permanence of the cure; others until arrangements were made to send them to the country; others for other reasons. With regard to diagnosis, he admitted that it was not always easy to draw a line between rheumatic fever, acute rheumatism, and some cases of acute gout. He believed all the cases in the paper had been fairly named. Many of them were in young females; and certainly none of them were gonorrhoeal rheumatism. Touching the date of the commencement of pericarditis, he called attention to the possibility of overlooking the very strictly localized creak, which sometimes exists for three or four days before being developed into a well-marked murmur.

ART. 13.—*The Treatment of Acute Rheumatism.**(British Medical Journal, January 2 and 9.)*

Guy's Hospital—Dr. Wilks considers rheumatic fever one of the most difficult diseases for study, the principal questions for elucidation being its natural progress; the most usual time for heart-implication; whether any remedies will cut short the disease; and, if so, whether its curtailment prevents the cardiac affection. Dr. Wilks says that individual practitioners will answer such questions most positively, but the profession is by no means agreed about their solution. Although he entertains a doubt as to the best method of treatment, he can fully endorse the statements made by the enthusiastic supporters of each particular remedy. He has fully tried them all, and has seen patients rapidly recover under the use of lemon-juice with a diminution of the pulse; he has had several cases where the blister treatment has been followed by the most marked success; he has given salines in large doses, and with a speedy good result; and he has adopted the eliminative plan of wrapping the patient in a blanket with the most marked benefit. His difficulty is, not that these plans always fail, for they then might for ever be put aside, but that they appear eminently successful. This is the good side of the case; the other picture is, that they all sometimes fail; the patient lingers on week after week, sometimes with the articular affection alone, and sometimes with the chest-complication. He had endeavored also, by the most careful analysis of symptoms, to discover the connection between the time of the occurrence of the alkalinity of the urine and the abatement of the symptoms; but without success, although very often the doctrine usually taught that the symptoms depart when the urine becomes alkaline, is found to be true. It was owing to this uncertainty as to the best mode of treatment, that the physicians at Guy's determined to study the disease uncomplicated by remedies; for it was assuredly true that no one knew what course rheumatic fever might take if left alone, or at least no one was supposed to know. Dr. Wilks believes that the treatment almost universally adopted until quite lately was equivalent to the "do nothing" system; that the few grains of saline three or four times a-day could have had no influence in checking the disease. The medical man was well satisfied with himself because the patient did not die, forgetting that rheumatism, with its complications, is rarely a fatal disease. If a patient with this disease took the usual saline, and then had endocarditis, pericarditis, and pleurisy, and, after weeks in bed, escaped with his life, friends, patient, and doctor congratulated one another on the favorable termination. The only correct view which can be taken would be that by a medical patient himself; he would consider that his case had ended well if he escaped without cardiac disease, and ended badly if he rose from his bed with an affection of the heart. He would say to his adviser, Cut the disease short if this will arrest its progress to my heart, but by all means let it run its course if by this means my heart will escape. Dr. Wilks thinks that it is by no means yet determined that absence of articular symptoms implies the less liability to cardiac disease, or that, after the administration of those remedies which are supposed to shorten the disease, the heart has more readily escaped. He has had lately two patients who were taking half a drachm of bicarbonate of potash every three hours, and very soon the urine became alkaline; after about two days the pains in the joints were lessened, but on the third day acute pericarditis appeared in both patients. In three other cases, now in the clinical ward, one is on quinine, another in blankets, and a third on the blister treatment; although the disease has been protracted, no cardiac affection has appeared in any of them. He thinks, however, that the two cases on the alkaline treatment were unusual, not on account of any antidotal influence excited by the medicine, but from the fact of the pericarditis occurring after the patient had been admitted. He thinks, that in most hospital cases the patient is never taken in until very ill, and then the cardiac inflammation already exists if about to occur at all; if not then present, it is not likely to happen under any treatment. He would not speak dogmatically on this subject, but believes it to be in the

main true; and, if so, it is only in private cases, where the patient is seen early, that the definite action of the remedies can be discovered. He would also insist on a fact, too often overlooked, that, whilst lymph on a pericardial surface at once makes itself known by the *frottement*, an equivalent inflammation of the endocardial surface might present no altered sound, and it would be only by the gradual thickening which subsequently takes place, that the fact would be known. This was the case of a man who had acute pericarditis, and it was a question whether there was also an endocardial sound synchronous with the rub; when the latter passed off, however, no murmur referable to the valves could be heard, nor at any subsequent period whilst the patient was in bed. After two or three weeks he was discharged; but before his leaving the stethoscope was placed over the heart, when a distinct systolic murmur was heard; this had been more than eight weeks developing.

Dr. Wilks considers that the main point for consideration is the discovery of that treatment which will bring the patient through without implication of the heart; that the profession has not yet arrived at this, is certain from the fact of the thousands who die annually of cardiac disease having its origin in rheumatism. If treating a private patient, and having sufficient faith in orthodox remedies until they can be superseded, he prescribes the saline of acetate and nitrate of potash with an opiate at night, occasional blisters to the joints to relieve pain, with flannel next to the skin, &c. Since these notes were written Dr. Wilks has published an interesting paper in the *Practitioner*, recommending the use of tincture of aconite, which he has found of marked benefit, given in frequently repeated small doses, in several cases of acute rheumatism.

St. George's Hospital.—The treatment of rheumatic fever, adopted by Dr. Fuller is essentially alkaline, and consists not only in administering salines and small doses of alkalies, but in pushing alkalies as rapidly as possible to the point of producing alkalinity of the secretions. When a patient is admitted into the hospital, Dr. Fuller's first care is to determine that the disease under which he is suffering is really rheumatic fever; for Dr. Fuller maintains, and acts upon the belief, that cases of rheumatic gout in its acute stage, simulate, and are often mistaken for, rheumatic fever. He asserts, indeed, that a want of discrimination as to the true nature of the disease is one of the causes of the failure which some persons experience in their treatment of so-called rheumatic fever by alkalies—true rheumatic fever yielding readily to these remedies, which exercise little control over acute rheumatic gout. The points of distinction on which Dr. Fuller mostly relies as indicating rheumatic gout are: 1, the complexion of the patient, which is seldom so pallid as in rheumatic fever; 2, the state of the skin, which is more inelastic and doughy than in rheumatic fever; 3, the existence of perspiration devoid of a strongly marked rheumatic odor; 4, tendency to swelling in the small joints of the hands; 5, the comparative absence of redness and coating of the tongue; 6, the absence of a copious deposit of lithates in the urine. When those conditions coexist, Dr. Fuller disregards the heat, pain, redness, and swelling of the joints, orders the patient out of bed, prescribes a cold shower-bath, and gives a generous diet, including meat and porter. At the same time, he administers bark and the mineral acids with cod-liver oil, or the mineral acids with tincture of iodine and cod-liver oil; or, if the urine be high-colored, acid and somewhat turbid, quinine or strychnine dissolved in citric acid, and given in effervescence with a dose of the bicarbonate of potash or soda, the secretions being regulated by an occasional alterative or a dose of some mild aperient. When, on the other hand, the case is manifestly true rheumatic fever, the alkalies—whether potash or soda appears immaterial, and Dr. Fuller often combines the two—are given to the extent of two drachms every three or four hours until the urine is rendered alkaline. Dr. Fuller usually prescribes two ounces of the *haustus ammoniæ acetatis* of the Hospital Pharmacopœia with one drachm and a half of bicarbonate of soda and half a drachm of acetate of potash, and this he orders to be taken in a state of effervescence in combination with half a drachm of citric acid dissolved in two ounces of water. The quantity of the fluid not only takes off from the nauseous quality of the medicine, but promotes its absorption, and thereby facilitates its action. As soon as the urine manifests an

alkaline reaction, the dose is repeated three times only in twenty-four hours; and on the following day, if the urine still remain alkaline, twice only. After three days, two doses only of this mixture in twenty-four hours usually suffice to keep the urine alkaline; and then Dr. Fuller adds two grains of quinine to each dose, or, if quinine be not well borne, he substitutes a mixture consisting of the haustus cinchonæ of the Hospital Pharmacopœia, with the addition of half a drachm of bicarbonate of soda and half a drachm of acetate of potash. Day by day, as the tongue cleans and the other symptoms subside, the quantity of alkali is cautiously diminished until a simple quinine draught is taken; but the condition of the urine is constantly watched, with a view to the immediate administration of a small quantity of alkali, should the least acidity call for its use. The diet is another point on which Dr. Fuller lays particular stress; he insists that strict abstinence from solid food is of far more importance than in gout. He gives beef-tea or broth throughout, and, if stimulants appear to be needed, does not object to their being administered cautiously; but he withholds solid food until the tongue is quite clean, and has often proved to his class in the wards that a too early recourse to meat will induce a relapse, and prevent convalescence. Under this treatment, Dr. Fuller says, the pains commonly subside in five or six days, and the patients are seldom ten days in bed. Moreover, the heart may be regarded as safe from attack; for, in two instances only, in the whole course of his hospital experience, has inflammation either of the endocardium or pericardium arisen after the patient has been twenty-four hours under treatment, and in one of these cases the alkalies had been imprudently abandoned under the belief that the patient was convalescent.

The treatment employed by Dr. Barclay is also alkaline. He follows out this plan after a long experience, believing that alkalies diminish the duration and the pain of the acute stage, and that by maintaining the alkalescence of the secretions the disease is less liable to become chronic. It prevents, almost invariably, he believes, inflammation of the heart after the system has been fully brought under the influence of the alkali. Dr. Barclay also gives mercury to improve and correct the excretions, and opium in modified doses to afford when necessary desired rest.

Edinburgh Royal Infirmary.—In the clinical wards of this infirmary the following treatment is adopted by Dr. Laycock. The details have been carefully condensed from the note books by Dr. David Ferrier, clinical assistant to his ward. The patient is put to bed with flannel next the skin, in order to favor and absorb perspiration and prevent sudden chill. When there is great pain and sleeplessness, a full dose of Dover's powder is administered. If the skin be hot and dry, a hot vapor-bath is resorted to with advantage. In cases of biliary derangement and constipation, the patient is freely purged. Calomel is generally given. The principal treatment consists in the administration of carbonate or nitrate of potash in drachm doses, every three or four hours, which Dr. Laycock finds greatly to alleviate the suffering, and considers beneficial in promoting the elimination of irritating substances from the economy. The treatment is the usual diathetic treatment of rheumatic affections in whatever form they occur. When the rheumatic affection is of the bursal form, colchicum is combined with the alkaline remedies. Quinine is given in those cases characterized by great irritability and restlessness with marked benefit. Opiate, alkaline, or nitrate of potash epithems, are applied to the affected joints. Blisters are not generally employed, except in cases of long continued pain in particular joints. In such cases they seem to produce marked relief in a short time. Lung complications, such as pleurisy, pneumonia, &c., are treated diathetically by alkalies and by the local application of opiate or alkaline epithems over, or a blister near, the seat of pain. If a heart affection be established, the treatment consists in giving a quarter of a grain of opium and a quarter of a grain of calomel in a pill every two or three hours. Heart affections are not so liable to come on when treatment by alkalies and the wrapping up in blankets has been adopted at the commencement of the disease. The cases of heart complications are chiefly those where the affection was established before admission into the hospital. In cases of head complications, with delirium, opium is given only in those characterized by muttering delirium;

and is avoided if there be any signs of cerebral irritation or excitement. When convalescence is established, quinine, iron, bitter tonics, and good diet is the rule of treatment. The average duration of acute uncomplicated cases treated on Dr. Laycock's principles is three to four weeks.

Leeds General Infirmary.—Dr. Chadwick, after much experience and a vast variety of changes in the course of thirty years, now relies upon bicarbonate of potash, in twenty grain doses, every four hours, and keeping the patient in blankets. The only difficulty he finds is some symptom or rule when to cease the administration of the remedy. The change from the sour perspiration and the alkaline condition of the urine may point to a less frequent administration, but does not warrant him in changing it altogether. Since he adopted the "sleeping in blankets," he believes he has had less endocardial and pericardial complication. His colleagues pursue a practice almost analogous.

Netley Hospital.—At Netley Hospital there are few admissions from acute rheumatism, most of the patients being men invalided from foreign stations. The disease is treated at Netley by Dr. MacLean chiefly by alkalies; bicarbonate of potash, in combination with nitre, being given in full doses until the urine is made alkaline, when the doses are diminished so as merely to maintain the alkaline conditions of the urine. Rest is obtained by sedatives, in combination with the wine of ipecacuanha. Joints that are particularly affected are enveloped in pads of lint soaked in a hot alkaline solution. If there be much pain, the hypodermic injection of morphia is resorted to. The plan of Dr. Chambers, of making the patients lie between blankets, is also invariably followed.

St. Bartholomew's Hospital.—Dr. Farre's ordinary mode of treating acute rheumatism is the "alkaline." He usually commences with three five-grain doses of calomel, followed by *haustus sennæ*; and repeats this daily till the evacuations are natural. At the same time, he gives the bicarbonate or acetate of potash, in twenty or thirty-grain doses, every four or six hours, according to the severity of the attack, generally using the former, but preferring the latter when there is synovial effusion. When there is little or no perspiration, or when the heart is much excited, he adds ten or fifteen grains of nitrate of potash. He not unfrequently also gives one grain of opium every night. For local treatment, especially of the smaller joints, he relies chiefly on the tincture or liniment of iodine, using the tincture for women and children, the liniment for the robust; one or the other of these is used in almost every case, and with nearly certain relief. When, however, there is synovial effusion, Dr. Farre uses either mustard or cantharides plaster. Mustard is always useful, especially when applied to the larger joints, as the shoulder. The appetite being always faulty, Dr. Farre gives milk diet until the tongue is clean, or cleaning. Meat given before it can be digested immediately brings back pain in the joints. He keeps the patient between blankets. As soon as the pain has gone, and the tongue is clean, he gives bitter tonics, omitting or diminishing the alkali if the urine is alkaline or neutral. If the tongue remains white after the pain has gone, he gives acids instead of alkalies with the bitter. Warm baths, he believes, are useful and refreshing when the patient can be moved without much pain. This treatment Dr. Farre has adopted, with little variation, for many years, and is very well satisfied with the result. The relief generally commences in forty-eight hours, often before. In some cases, however, the rheumatism shows a disposition to return. These he treats, as Dr. Nevins does, with quinine and iodide of potassium, and, in most cachectic cases, gives quinine early (as soon as the evacuations from the bowels are healthy), either with or without iodide of potassium. In the same cases, too, he gives cod-liver oil. Iron he only uses when the patients, during convalescence, are pallid. His treatment, then, consists in calomel purges, bicarbonate or acetate of potash, tincture of iodine or blisters; blankets; milk diet till the pain subsides; then bitter tonics, with smaller doses of potash, or with iodide of potassium, or with acids.

St. Thomas's Hospital.—The plan of treatment adopted by Dr. Peacock, in cases of acute rheumatism, is chiefly the alkaline and eliminative methods, giving full doses of the bicarbonate of potash, with nitrate of potash, and, not

unfrequently, iodide of potassium; and, in the latter cases, usually combining the remedy with small doses of colchicum. Latterly, he has employed blisters freely, in such cases as admitted of their use; and, provided several joints are affected, so that four, or five, or six blisters can be applied at the same time, the beneficial effect is most striking: the local symptoms are very markedly and rapidly relieved, the constitutional disturbance is lessened, and the disease cut short; so that cardiac symptoms are prevented, or arrested, if in process of development. He has not, except in very exceptional cases, relied wholly on the local treatment, but has added it to the constitutional measures which were previously in use, and the additional benefit gained is often most striking. It is applicable especially to the more intense cases of rheumatic fever; but is also very useful in those cases which are of such common occurrence, where the disease develops itself in persons previously most reduced in health, and more particularly in persons who have previously had the disease, and often with cardiac complication. In such cases, if the disease be not rapidly arrested, the cardiac symptoms are almost sure to be aggravated; and the surest means of effecting that arrest he believes to be the use of eliminative treatment and free blistering. Such persons, also, should not be reduced, if it can at all be avoided.

King's College Hospital.—The main points on which Dr. Johnson insists, are: that the patient should wear a large, loose, soft flannel dressing-gown, instead of a cotton shirt; this should be changed at least every other day. If the pains be severe, he gives moderate doses of opium—half a grain or one grain, with two grains of quinine, three times a day. If the bowels be confined, a seidlitz powder may be given every morning. He generally gives moderate doses of alkalies—one scruple or half a drachm of bicarbonate of potash, with or without citric acid, every four or six hours. He is not satisfied that large doses of alkalies prevent cardiac complications; and he believes that they increase the tendency to rapid anæmia. In subacute cases, and in all cases where the skin does not act freely, he finds that hot-air baths are very useful. In cases of cardiac complication, especially pericarditis, with pain, he applies six leeches; then linseed poultices. He abstains from blisters and counter-irritation in the early stages of pericarditis. In cases of endocarditis, in order to lessen the tendency to deposit fibrine on the inflamed valves, he gives five-grain doses of sesquicarbonate of ammonia with the alkaline mixture.

Middlesex Hospital.—Dr. Goodfellow, from a long experience, has eventually arrived at the conclusion that large and frequently repeated doses of alkalies, chiefly the nitrate of potash, in doses twenty grains at a time, with smaller doses of other alkalies, are more effectual in cutting short the attack, and rendering the heart less liable to organic affection, than any other remedy. He, at the same time, applies cotton-wool to the præcordial region. If the joints be tense and painful, nitre poultices or wet compresses are applied; and, if they be less acutely affected, cotton-wool. He advocates flannel being worn to encourage perspiration. He strongly deprecates the practice of exposing the chest to the extent usually done, and percussing the præcordial region more than is absolutely necessary, as he believes that pericarditis may follow such a course, or, at least, existing attacks may be increased in severity.

Westminster Hospital.—Dr. Finchan has employed the treatment by blisters for some time, and he is satisfied that by this plan the relief produced is very great, and the duration of the malady shortened. He is in the habit, however, as a rule, of combining with it alkalies in full doses—e.g., Pot. bicarb., ℥ij; pot. nitratis, gr. x; liq. amm. acet., ʒij; aquæ pur., ʒx—every four hours; with a full opiate at night if the pain be very severe. He does not, however, think it advisable to continue the alkaline treatment for any lengthened period, but to give quinine, in doses of two or three grains, every six hours when the urgent symptoms begin to yield, especially if the sweating is over profuse. He believes that by giving quinine earlier than is generally the custom, convalescence is less tedious, and there is less chance of relapse. As regards cardiac complications, if pericarditis supervene, and there be sharp catching pain, he applies a few leeches, followed by linseed poultices; should the pain be slight or absent, he omits the leeches. In all cases he applies subsequently one or

more blisters. As to medicine, he continues the alkalies, giving at the same time a grain of opium every four or six hours. Should endocarditis manifest itself, he contents himself with the alkaline treatment, as he cannot satisfy himself that local remedies have any effect.

In Dr. Basham's wards, typical cases of acute rheumatism—acute rheumatic fever—with inflammation of several joints, simultaneously or in succession—with or without cardiac complication, full, hard, bounding pulse, elevated temperature, loaded tongue, characteristic acid sweat, scanty urine loaded with urates, thirst, and general febrile prostration, are treated chiefly with salines: either the nitrate of potash, largely diluted, and given as a drink, acidulated with a little lemon-juice, or with the bicarbonate of potash and carbonate of ammonia in a state of effervescence, with lemon-juice. When great restlessness and loss of sleep, caused by the local pain and swelling, prevail, Dover's powder and nitre, in equal proportions, are given at bedtime. For the relief of the local distress in the joints, gloves for the hands, caps for the knees, and socks for the feet, made of Markwick's spongio-piline, are moistened with a hot solution of nitrate of potash and applied, and the parts thus kept in a hot saline bath day and night. Dr. Basham rarely finds that the affected joint does not recover its mobility, and is free from all but stiffness, in twenty-four or thirty hours. To render the saline plan of treatment the more efficacious, Dr. Basham recommends that the state of the alvine secretions should, in the early stage, be ascertained, and if of the characteristic hard and offensive form, one or more brisk mercurial purges should be given to facilitate the action of the salines. As soon as the tongue cleans, and the urine becomes abundant and clear, he gives quinine or some preparation of cinchona bark and a mineral acid, with improved diet, to promote the convalescence. Cardiac complication, if not present on admission, Dr. Basham finds rarely manifests itself during this plan of treatment.

German Hospital.—The principal methods of treatment employed at this hospital during the last seventeen years have been the following: 1. Nitrate of potash, in doses of from two to six drachms per day; 2. Bicarbonate of soda, in doses of from two drachms to an ounce per day; 3. Acetate of potash, from two to six drachms per day; 4. Lemon-juice, from five to thirty ounces per day; 5. Quinine, from fifteen to forty grains per day; 6. Blisters above and below the affected joints; 7. Simple nursing. The greatest number of cases, however, has been treated by bicarbonate of soda. Opium and other narcotics have never been given systematically; but occasional doses, to procure rest, have not been excluded from any of the methods mentioned.

The duration of the disease, as far as Dr. Weber's notes go, has varied, from the commencement to the termination, from ten days to eleven weeks; and from admission into the hospital to the termination, from three days to eight weeks. The proportion of heart complications originating during the stay at the hospital did not exceed ten per cent.; and in many of these it appeared so soon after admission as to cause the impression that the act of removal, and the movements connected with it, were the cause of the complication. The average duration of the disease in the cases treated with soda is slightly less than the average of all cases observed; and the same is the case with quinine treatment, and with the blistering according to Dr. Davies's plan. In several of the cases treated by blisters, the urine became albuminous, and mixed with blood-globules; but in less than four days after the application of the last blister it was free from albumen; and in no instance was permanent albuminuria the consequence. Without entering into details, Dr. Weber mentions that his notes lead him to the inference that careful nursing, especially the keeping of the whole body, and of the affected joints in particular, as much as possible at rest, is by far the most important part of the treatment in acute rheumatism; that, however, narcotic remedies are occasionally very valuable; that, further, the alkaline treatment is useful in those cases in which it reduces the excessive frequency of the pulse, and the more than usually increased temperature in the course of a few days; but that is of little service if it do not affect these changes within four or five days. He is unable to say before the trial which are the cases suitable for the alkaline plan. The quinine treatment seemed to be beneficial in

those in which there were considerable exacerbations and remissions, and a certain degree of anæmia and pallor; and the blister treatment where the pain was accompanied by much swelling of the affected joints.

Glasgow Royal Infirmary.—The treatment in rheumatic fever, which Dr. Gairdner has usually followed, has been that by alkalies, and especially by acetate of potash, commonly aided by smaller doses of iodide of potassium, which last he began to employ systematically as part of the alkaline treatment since going to Glasgow, and much on the recommendation of Dr. Ritchie of that city, who was long in the habit of combining it with the acetate. The proportion he usually employs is one drachm of iodide to one ounce of acetate in one pint of water, with any syrupy excipient that may be preferred to give flavor and take off the bitter saline taste. Lately he has tried the blister practice of Dr. Herbert Davies, and, he thinks, with good success in some cases, certainly with manifest relief at the time. But he has not learned to trust entirely to this treatment, and has used it only along with the other. The joints are commonly wrapped in cotton wadding, whatever the treatment in other respects. In a few cases he has used considerable doses of quinine, in a few, arsenic; in very many, opium; either as a principal or as an accessory remedy, and often in pretty high doses.

Queen's Hospital, Birmingham.—At this hospital, the number of cases treated is very large, and many are of great severity. The following treatment is that adopted by Dr. Fleming. The patient is placed between soft blankets, and carefully protected from cold draughts. A meal is given every four hours, consisting, during the fever, of milk and strong beef-tea alternately. The diet is cautiously improved during convalescence. One hour before each meal, this draught is administered: Potassæ bicarbonatis, gr. xxx; aquæ, ʒij. M. Add half an ounce of fresh lemon juice, and take the mixture during effervescence. If there be high fever, from one to three minims of Fleming's tincture of aconite are added to each draught. If there be much pain in the muscles, in place of aconite, from five to ten minims of tincture of hemlock are added to each dose of the alkaline. If, on the other hand, the periosteum be affected, from two to six grains of the iodide of potassium are given. To relieve pain and secure sleep, Dr. Fleming orders, at bedtime, a full draught of morphia and Indian hemp; as a drink, potassa water or lemonade freely. If necessary, colocynth and hyoscyamus pill is given to relieve the bowels. Cotton wadding is applied to the affected joints. Active and repeated counter-irritation and poultices over the heart are employed in cardiac inflammations. During convalescence, warm clothing, full diet, with quinine and iron. After considerable experience, Dr. Fleming has found that this treatment has furnished very good results; and that the number of those attacked with cardiac inflammation *after* their admission into the hospital is undoubtedly small. Placing the patient between blankets materially promotes perspiration, and prevents chill. In two recent cases where this plan was followed, sudamina appeared over the entire surface. The contents of the vesicles were ascertained by Dr. Sawyer, the resident physician, to be alkaline, not acid.

ART. 14.—*Tables Illustrating the Effects of Remedies upon Uncomplicated Acute Rheumatism.*

By W. H. DICKINSON, M.D. Cantab., F.R.C.P., Senior Assistant Physician to St. George's Hospital, and to the Hospital for sick Children.

(*The Lancet*, February 20.)

These tables furnished the basis of a paper in the forty-fifth volume of the *Medico-Chirurgical Transactions*. They supply the following facts: 161 cases of acute rheumatism, as yet without evidence of cardiac affection, were admitted. In thirty-six of these, heart complications arose while the patients were under treatment. These complications, though more frequent early than late in the disease, were found to have come on at all times during the first four weeks of the rheumatism. The cardiac disturbance was found in the first week

of the disease in twelve cases; in the second, in nine; in the third, in five; in the fourth, in three. In seven cases the date of the murmur was uncertain.

These statements, Dr Dickinson states, cannot in strictness be looked upon as contributing to the "natural history" of rheumatism, for all the patients were subjected to the therapeutical measures, and some to measures which, there is reason to believe, conferred such protection upon the heart as to reduce the proportion of cardiac affection.

A nearer approach to the natural proportion of cardiac disturbance would, probably, be obtained by excluding all the cases subjected to alkaline treatment. This would give 35 cases of heart affection coming on in hospital among 110 of rheumatism.

The chief object is to examine into the frequency of cardiac mischief in relation to different methods of treatment.

Of the 161 cases of rheumatism, 48 were subjected to the alkaline treatment—that is, to the daily administration of between half an ounce and an ounce and a half of the carbonates and vegetable salts of potash and soda. 3 cases were treated with salts of ammonia. 110 cases were treated by various means other than the full alkaline system, including bloodletting, mercury, nitre, guaiacum, opium, iodide of potassium, quinine, and such small doses of the alkaline salts as are described as "partial" or come under the designation of salines.

Among the 48 patients under alkalies, one case of heart affection was recorded: among the 3 under ammonia, none; among the 110 under treatment other than alkaline were recorded 35.

Thus the alkaline treatment gave a proportion of heart disease of 1 in 48; non-alkaline treatment a proportion of heart disease of more than 1 in 4. The number of cases is large enough to afford a weighty deduction.

It is, of course, not unlikely, as the notes which the tables represent were taken for the most part in the ordinary course of hospital work, that a slight or transient murmur may now and then have been overlooked; but this source of error must have affected alike all modes of treatment. With the evidence before us it is not possible to question that, as compared with the other methods in use at the same time, the alkaline system gave a much smaller proportion of cardiac disease.

Under alkalies the duration of the disease was shorter than under most other plans, a point, however, of little importance as compared with the safety of the heart.

It is not necessary to consider other remedies; venesection and mercury are practically abandoned in acute rheumatism. Next to the alkalies, nitre appears to give the best results. With regard to the other drugs which are represented in the table, we can trace no advantage from their administration, and need not too precisely inquire whether they are mischievous or merely useless.

With regard to Dr. Davies's blistering system—a method of treatment of which the tables give no example—from clinical evidence as well as the theoretical probability of the withdrawal, by this means, of a rheumatic poison, we may believe it to be attended with advantage. On the other hand, it is inconvenient to the patient, and probably does not protect the heart to the same extent as can be claimed for alkaline medicines.

It does not seem, the author writes, that any method of treatment which has yet been invented is able entirely to do away with the tendency which acute rheumatism has to affect the lining and covering membranes of the heart. Of late years, alkalies in some form have been almost invariably used at St. George's in cases of this disease; thus a much larger number of cases have every year been subjected to this treatment than was formerly the case. Dr. Reginald Thompson, the present medical registrar, has collected a considerable number of cases both of endocarditis and pericarditis, under alkalies; but it is not necessary to dwell upon this fact, since, as no other method of treatment has been employed to any extent during the same period, we have no means of comparing these cases with others under different circumstances. Though it must be allowed that heart complications occur occasionally under alkalies,

the conclusion may fairly be drawn that, as compared with other modes of treatment, alkalies give the best results.

It may not be out of place to refer to the experience of Dr. Fuller, who was the early, and has been the persistent advocate of the alkaline treatment. He states that among 168 cases of acute rheumatism, the heart became involved, subsequent to the commencement of the treatment, in only five.

Whether alkalies give better results than mint-water, or what is called expectancy, is a question to which the details Dr. Dickinson has given supply no answer. A few words of practical suggestion, the author adds, may form a not unwelcome conclusion.

In order to obtain the best results from the alkaline treatment of rheumatism, it is necessary that it should be regulated with a watchful care. In the beginning of the disease, when there is rapid production of acid, the alkalies should be given freely, and above all, frequently. Taking the urine as a guide, it should be made alkaline as soon as possible, and kept so with no intervals of acidity. To do this, the salts must be given at first in considerable doses, and at short intervals; three or four scruples every two or three hours, as ordinary treatment for an adult. As the disease progresses, and the acid tendencies of the patient diminish, it is necessary to lessen the strength and the frequency of the medicine in a gradual manner, with continual reference to the urine, guarding against excess of alkali towards the end of the disease as carefully as against deficiency at the beginning.

It appears to matter little whether potass of soda, vegetable salts or carbonates are used. Citrate of potass may be given alone, or with acetate or bicarbonate. Nitre and acetate of ammonia are, at St. George's, not unfrequently used as adjuncts. The form of prescription may be safely varied according to the circumstances of each case and the fancy of the practitioner. Perhaps a simple solution of citrate of potass in water is as effective and as little objectionable as anything. This salt, or its equivalent, may be given in the general quantity of about an ounce in the twenty-four hours; rather more at the beginning of the disease, less towards the close. In most cases quinine or bark may with advantage be added as the active symptoms wane.

ART. 15.—*Opinion of Irish Physicians on the Treatment of Acute Rheumatism.*

(*Dublin Quarterly Journal of Medical Science*, May.)

Subjoined are the opinions of a number of the principal hospital physicians of Ireland, with regard to the treatment of rheumatic fever:—

The remedial agents Dr. John Banks generally employs are, alkalies, opium, blisters and quinine. He believes it to be impossible to lay down rules applicable to all cases; but with the results of this complex treatment he has reason to be satisfied. The value of quinine in obstinate and frequently relapsing cases of rheumatic fever is not, he thinks, sufficiently recognized. Without claiming for any remedy, or any combination of remedies, the power of preventing with certainty the advent of complications, he is nevertheless impressed with the belief that treatment judiciously directed so as to meet the exigencies of each individual case, has the effect of shortening the disease and diminishing the proclivity to cardiac inflammation.

Dr. Thomas E. Beatty, ex-President King and Queen's College of Physicians, says, the most rapid recoveries he has seen in young persons have been from the free use of lemon-juice, from one to two ounces of which were given every third or fourth hour.

Dr. Charles Benson has no hesitation in stating his conviction that treatment *does* influence favorably the duration of the disease, and lessen the percentage of hearts damaged.

The treatment which he generally prefers is "the alkaline;" giving the bicarbonate of potass, for the most part with lemon-juice in effervescence, sometimes with decoction of cinchona, or with calomela, according as may best suit

the stomach, or condition of the patient in other respects. He usually combines colchicum and digitalis with these, giving, in twenty-four hours, from 30 to 60 minims of each, and at bedtime an opiate. Dr. Benson's favorite opiate is Dover's powder—10 or 15 grains at night, and, if there be much suffering, 5 grains three or four times a day in addition. He thinks the colchicum helps to eliminate the *materies morbi* from the system, and he fancies the digitalis promotes the same object, while by its sedative influence it lessens the danger of cardiac complication. He does not prescribe the bicarbonate of potass in such large quantities as Dr. Fuller recommends. It is too lowering for the citizens of Dublin. He seldom uses more than 4 drachms in the day. Sometimes he gives a little iodide of potassium also, and when the patient is scrofulous or tainted with syphilis, this appears to be useful. In delicate or scrofulous subjects he gives cod-liver oil freely, and the iodide of iron or some other chalybeate. Dr. Benson regulates the bowels with injections of soap-suds, to which he adds a little soda or potass to follow the alkaline plan, without too much distressing the stomach. When a joint is particularly painful he puts on poultices of linseed-meal, containing some potash or soda, and when effusion takes place into a joint he often has recourse to a blister. The jerking pulse and impulse which precede the murmur of endocarditis for twelve or twenty-four hours, suggested to Dr. Benson the employment of digitalis. When the heart is threatened, which may always be known by the jerking pulse and impulse, Dr. Benson applies blisters to some of the joints, and just below the left nipple—pushing the opiates and digitalis remedies still further.

Sir D. J. Corrigan, Bart., M. D., does not see why opiate treatment is to exclude blisters, &c., or *vice versa*.

Dr. John T. Drennan, M. D., writes: Blankets and cotton wadding as external application; moderate purgation, followed by the administration of the salts of potash (the bicarbonate and nitrate and the iodide of potassium), with opiates, or occasionally colchicum. Bark or quinine when the fever subsides, and the tongue becomes clean.

Dr. Henry Freke is strongly of opinion that although we can mitigate symptoms, we at present know of no means whereby we can cut short the disease, or with any approach to certainty reduce its duration. That there is no constancy to be recognized in the duration of the disease, but that either with or without treatment it *may* terminate in a fortnight or *may* last for two months. That if two patients in apparently similar circumstances, and presenting in every respect similar symptoms, be placed on the same line of treatment, one will occasionally recover in the course of twelve or fourteen days, while in the other the disease will frequently have a duration of seven or eight weeks, and that *whatever* be the line of treatment adopted.

Dr. Samuel Gordon has no doubt but that the alkaline and diaphoretic plan of treatment is of essential service in shortening the duration of rheumatic fever, and in lessening the probability of cardiac diseases. Even unaided, when carefully carried out it is of great value, but he attaches much importance to the constitution of the patient affected, and to the fact of it being a primary attack or otherwise. The preparation which Dr. Gordon generally uses is the combination of bicarbonate and citrate of potass—that is, he gives very large doses of bicarbonate of potass in effervescence with lemon-juice—giving a large excess of the bicarbonate.

If the patient be of a strong constitution, and the attack a primary one, Dr. Gordon usually adds small doses of tartarized antimony with great advantage. He thinks that when the depressing effect of antimony on the heart can be produced without vomiting, it proves most serviceable in averting cardiac complications. This was the plan of treatment usually adopted by the late Dr. Cramp-ton, after he had given up the practice of venesection, and it was followed by great success. The use of opium Dr. Gordon considers to be indicated in those cases in which the fibrous structures are much engaged, and when not contra-indicated, he always prescribes it in the form of Dover's powder; but he never uses the opium without having first tried the alkaline and diaphoretic plan for at least 24 hours.

In asthenic constitutions, or when the attack is not primary, Dr. Gordon

finds great advantage from the addition of large doses of the iodide of potassium, combined in this as in all other cases in which he uses it, with small doses of aromatic spirit of ammonia.

When there is much local distress he applies the vesicating collodion freely, and afterwards a warm solution of the bicarbonate of potash covered with French wadding and sheet gutta-percha.

With regard to the occurrence of endocarditis as indicated by endocardial murmur, Dr. Gordon has long taught that the sign is most fallacious; the most severe and most intractable cases of endocarditis which he has witnessed have been unaccompanied by any murmur (*vide Dublin Hospital Gazette*, April 1, 1857), and on the contrary he is satisfied that on account of the existence of an endocardial murmur, numbers of cases are recorded as endocarditis in which no inflammatory exudation has occurred.

Dr. Hayden has given full trial to the alkaline treatment. His experience of it is, on the whole, favorable. It never fails to alleviate articular pain when pushed to the extent of rendering the urine alkaline in reaction. It should always, when not contraindicated by other considerations, be pressed to this point, short of which it fails to give relief.

Dr. Hayden is convinced, however, that the alkaline treatment, carried even to the point just indicated, does not confer certain immunity from cardiac complication.

Dr. Henry H. Head is convinced that every case of rheumatic fever should be treated strictly in accordance with the rules laid down by those who have adopted the "blanketing" system, and that the medical treatment, properly so called, should be added to it.

The result of Dr. Head's observation has been decidedly in favor of treatment by alkalies and their salts, in combination with the vegetable acids, in cases where the symptoms are very acute, characterized by quick, hard pulse, high temperature, and acid secretions, and where the constitution of the patient has been hitherto good; and he thinks he can assert, with perfect confidence, that where this course has been pursued, in combination with careful protection, cardiac complications have been extremely rare in cases where there was undoubted evidence that such lesion did not previously exist.

In the case of patients who have suffered from repeated attacks of rheumatism, when the character of the fever is low, or the constitution previously bad, the alkaline treatment (if adopted at all) should be carried out with great caution, and should be combined or very soon followed by the use of quinine or bark. Where the joints affected are numerous and the pain is very acute, Dr. Head has found very great relief afforded by the blistering method suggested by Dr. Herbert Davies; but although the alleviation of suffering is considerable, he does not consider that this treatment shortens the duration of the attack.

Dr. Alfred Hudson's impression is that the early and free exhibition of the alkalies or their neutral salts is prophylactic of cardiac affections. He even believes that they are the best curative measure which can be employed when endocarditis has actually supervened. In several instances he has known an endocardial murmur which, commencing at an early period, had persisted throughout the illness, to disappear gradually under the influence of large doses of the neutral salts, more especially of the acetate and nitrate of potash.

Dr. John Hughes's treatment has invariably been the quino-alkaline, with blisters to the joints to relieve pain, and a fair amount of nutritious diet; very rarely stimulants—opium combined with the mixture in small doses, or as a sedative at night to procure sleep.

Dr. Henry Kennedy for some years past has had the greatest confidence in what is known as the alkaline treatment laid down by Drs. Garrod and Fuller for acute rheumatic fever. Whilst, however, he speaks in favor of the alkaline treatment, he does not limit himself entirely to it. In by far the majority of cases the disease is attended by very severe suffering. Hence Dr. Kennedy has been in the habit of joining the anodyne to the alkaline treatment, and, he believes, with the best results.

Dr. Robert Law's treatment consists in a moderate venesection, almost never

exceeding eight ounces, and seldom requiring to be repeated; and in the exhibition of colchicum, either in the form of the tincture or the wine of the seeds, of which preparation he does not exceed a drachm in a six-ounce mixture, or the acetous extract in grain doses three or four times daily. When he considers it necessary to exhibit an aperient, which he avoids as much as possible in such cases, from the pain of the motion consequent upon the operation of the medicine, he directs the following mixture: Tincture of the seeds of colchicum, one drachm; tincture of senna, half an ounce; sulphate of magnesia, six drachms; peppermint water to six ounces. He has found considerable advantage and ease to the patient from combining opium largely with the colchicum. Dr. Law constantly directs a drachm of the tincture of the seeds of colchicum, and a drachm of liquor opii sedativus, in a six-ounce mixture; or a grain of the acetous extract of colchicum and a grain of the watery extract of opium in a pill, three times, or oftener, in the day. The local application to the inflamed joints which Dr. Law has employed with most advantage is the tincture of iodine, and especially where there is effusion into the joints, which, in most cases, disappears speedily under its use. Dr. Law has generally observed, where the pericardium or endocardium is about to be affected, there is, in general, previously an excited action of the organ, in which case he adds digitalis either to the mixture or pill. And when an attrition murmur, or a valvular abnormal sound, indicates pericarditis or endocarditis, he then combines mercury with the other medicines in the following formula: Acetous extract of colchicum, four grains; calomel, three grains; watery extract of opium, two grains; powdered digitalis, one grain. To be made into four pills; one to be taken every third hour. He also directs a blister to be applied to the precordial region, and the blistered surface to be dressed with mercurial ointment, in order to bring the system speedily under the influence of this medicine—convinced as he is of its power to effect the absorption of the effused lymph, whether deposited on the pericardium, or on the surface, or in the substance, whether superficially or interstitially in the valves. This is the stage of the disease when medicine can alone cure it. When the acute symptoms have passed away, and all fever gone, Dr. Law prescribes bark and hydriodate of potash, or quinine; and when stiffness of joints alone remains, warm baths. As long as the disease retains any of its acute character, so long will no benefit be derived from the warm bath; but so far from it the patient generally complains that his pains had been much worse.

Dr. Robert D. Lyons has adopted for some five years past a settled mode of treatment of rheumatic fever, the details and principles of which may be thus briefly summarized:—

The patient is placed in a flannel jacket, and between blankets, the sheets being removed from his bed. The joints affected are assiduously poulticed with a mash of camomile flowers and poppy heads, reduced to a soft state by being simmered for from one to two hours. These poultices are removed and replaced by fresh ones at intervals of three or four hours, and thus this soothing application is kept up "hot and hot," so long as pain and swelling continue to be complained of; and so marked and immediate is the relief thus afforded that the patients will be found frequently to ask urgently for a fresh poultice to a joint which is becoming affected. To procure sleep, and to ease and tranquillize the patient in this very painful malady, from one quarter to half a grain, or even a grain dose of opium is given every third, fourth, or sixth hour, according to the age of the patient, and the distress and urgency of the symptoms. The following alkaline mixture is next prescribed, the proportions and the vehicle of exhibition for which are altered according to the state of the patient's stomach. In eight ounces of the infusion of gentian, cascarrilla, or any of the light bitters, half an ounce of the bicarbonate, two drachms of the acetate, and two drachms of the nitrate of potash, are ordered, with half an ounce of any ordinary flavoring syrup. Of this mixture one tablespoonful is administered every third hour, except when the patient is asleep. The diet is restricted to milk and any simple farinaceous food; and for drink, soda or kali water, or lithia waters in effervescence are allowed *ad libitum*.

Dr. Lyons' standing orders to the clinical clerks are to examine and record

the state of the heart and its membranes on the patient's admission. When, should cardiac complication exist, or should it be subsequently developed, *which rarely happens* when this plan of treatment has been put in operation sufficiently early, relays of leeches and poultices are placed over the heart; but mercury is not now exhibited in Dr. Lyons' practice, except in the most rare and exceptional instances. When, as occasionally, though in his experience but very uncommonly, it may happen through squeamishness of stomach the alkaline mixture just described is not well borne, Dr. Lyons has recourse to the salts of lithia, given in distilled water with a little of the syrup of orange flowers.

The bowels are regulated by enemata, or a mild rhubarb aperient, with *magnesia usta*; but under no circumstances is the patient allowed to get out of bed, and he is at all times supplied with a urinal.

Tepid sponging, and the frequent use of dry warm (Turkish) towels are found to give great relief when the sweat is excessive. It has not been found necessary, in Dr. Lyons' experience, to leech or blister the joints, and to this latter procedure he avows an open and uncompromising hostility.

For this plan of treatment, as above detailed, and which has been pursued more persistently by Dr. Lyons than perhaps by any other of our Irish hospital physicians, he claims no originality whatever, but he avers the following conclusions in its favor:—

1. It gives immediate ease, by the local application, and the internal employment of narcotics. The patient thus passes with a minimum of suffering through an otherwise extremely painful disease, and often after the first day or two the patient complains of absolutely no pain or distress whatever.

2. The local application of heat, moisture, and narcotics relaxes the fibrous textures invaded by the *materies morbi*, urate of soda, or whatever other pathological product it may be, while the said *materies morbi* is not repelled from external parts, where, though the cause of pain, it is rarely if ever capable of producing ultimate serious organic mischief, as it will surely tend to do, if driven upon internal organs.

3. The alkali thrown liberally into the system affords, when circulated in the blood, a ready solvent for the urate, while the action of the nitrate and the acetate of potash promotes free elimination through the safest channel of exit from the body, that of the urinal excretion.

4. This plan of treatment, when fully and carefully carried out, diminishes the duration of the disease, and, in Dr. Lyons' opinion, lessens in a very high degree the liability to cardiac complication. So much is this the case, that in but an exceedingly rare number of instances has it happened that a patient admitted without cardiac complication has developed it subsequently in Dr. Lyons' clinique. Furthermore, his experience has shown him that in instances in which cardiac murmur was present on admission of the patient, the persistent employment of the alkaline plan with the adjuncts above detailed has had the result of removing the cause of the murmur, possibly in such instances constituted by limited deposits on valves not otherwise damaged.

With the experience of five years in hospital and in private cases, and with, as he avers, the happiest results as to diminution of suffering, shortening of the duration of the malady, an undeniable lessening of the tendency to cardiac complication, Dr. Lyons avows himself a warm advocate of the alkaline and narcotic plan of treatment above detailed. His results of treatment have before been brought to the notice of the profession, and have been witnessed by many visitors to his clinique.

Dr. William Moore is an advocate for the alkaline treatment, and after having given those in use, individually, repeated trials, he is disposed to place most reliance on the acetate or bicarbonate of potash, especially the latter, in doses varying from half a drachm to one drachm every fourth hour; having first relieved the chylopoietic viscera by a mercurial purgative. He has found this treatment, combined with an opiate at bedtime, *fluid* diet, and keeping up a general high temperature, particularly over the affected joints (which is best done by wrapping them in raw cotton covered with oiled silk), very satisfactory.

Dr. Moore states that although not armed with statistics, his experience

leads him to conclude that where the above treatment is steadily carried out, not only is the duration of the disease shortened, but endo- and pericardial complications are of less frequent occurrence.

Professor William Stokes has long disbelieved in the efficacy of any of the proposed specific treatments for acute rheumatism or rheumatic fever, including mercury, opium in large doses, bark, colchicum, alkalies, and acids. The disease, continued fever, will run its course, and the principles of treatment are the same in both cases. We are to support the strength and alleviate pain, and employ tonics in the advanced stages.

Some of the most protracted convalescences Prof. Stokes has ever seen were in cases in which, as was the practice long ago, the patients were at an early period, brought under the influence of mercury.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 16.—On Headaches.

(*Medical Times and Gazette*, March 27.)

Dr. Martineau has lately published an admirable monograph¹ on this subject, which is well worthy of careful study, for there are few symptoms which give the practitioner more trouble, both in a diagnostic and therapeutic point of view, than some of the anomalous forms of headache.

Headache may be general, extending over the whole of the cranial region, or it may be partial and circumscribed, and affect either a lateral half, when it is known as hemicrania, or a definite region, as the frontal or occipital, or it may be confined to a very limited spot, as the top of the head in certain cases of hysteria. The pain varies in intensity, and may be slight or violent, acute or dull. The pictures of their sufferings, as drawn by the patients themselves, are most varied. Some complain of a sensation of heat, tension, constriction, formication, pricking, and lancing, while others describe a sensation of tearing of the structures and of violent pulsations. Some complain that they feel as if the head were bursting, or as if it were being struck by a hammer, or as if it were compressed by a heavy weight, while others complain that the head feels light and vacuous. In some cases the scalp is so sensitive that even touching the hair excites pain. The functions of hearing and sight may be affected, and the patient may complain of abnormal sounds in the ears and various disturbances of vision, and in some cases the cutaneous sensibility of the face is affected. With these cerebral phenomena are associated certain symptoms presented by other organs, especially the stomach.

The duration of headache is as variable as is its intensity or seat. It may be ephemeral or permanent, lasting only a few hours or continuing for months or even years. In the latter case the pain is commonly due to a morbid diathesis, or to a gouty tendency, or a syphilitic taint. If the pains are due to syphilis, we may often get a diagnostic hint by observing the exacerbations which they undergo when the patient retires to bed. An illustrative case lately occurred in the wards of Professor Nélaton. A young washerwoman, suffering from syphilitic nodes, was frequently obliged to carry on her business throughout the whole night; and on these occasions there was no exacerbation of the headache from which she constantly suffered. But if she attempted to lie down during the day, the pain in a few seconds became so intolerable as to render sleep impossible. Indeed, whenever she attempted to lie down, the pain became so agonizing as to compel her to rise. Iodide of potassium in small doses soon effected a radical cure.

¹ Article "Céphalalgie," in the *Nouveau Dictionnaire de Médecine et de Chirurgie*, tome vi. Paris: Baillière. London: Baillière, and Williams and Norgate.

After noticing the various classifications of headache, based upon its causes, that have been proposed by various authors, Dr. Martineau divides them into (a) cephalalgia dependent on a lesion of the skin, or of the muscles and fibrous tissue, or of the bones of the head; (b) cephalalgia due to a lesion of the nervous centres; and (c) cephalalgia of a sympathetic or reflex origin.

The pains in the head experienced in erysipelas, rheumatism of the scalp, and secondary or tertiary syphilis, are examples of the first division. The headaches accompanying acute meningitis, the tubercular meningitis of children, cerebral softening, cerebral congestions, affections of the cerebellum, scarlatina, Bright's disease, &c., belong to the second division; while under the third division the author places the headaches that occur in the various forms of fever, in disordered conditions of the stomach and intestinal canal, diseases of the respiratory system (as pneumonia, febrile catarrh, influenza, acute bronchitis, &c.) in gout, in uterine affections, epilepsy, blood-poisoning, &c.

We must always carefully distinguish between a headache that comes on almost instantaneously in a healthy man and a headache attacking a person who is already an invalid. Our diagnosis and prognosis in these cases are very different. For example, if a man is suddenly attacked with intense headache, under special conditions of climate and season, in certain countries (especially in northern countries) the headache almost certainly indicated a malarial poisoning, while in hot southern countries such a headache would have a very different signification, and would point to abdominal and probably hepatic disorder, and would probably be the precursor of yellow fever. In the first case, the physician would at once have recourse to sulphate of quinine, while in the second the headache would give no special hint as to treatment. Remedies must, as a general rule, be addressed not directly to the headache itself, but to the seat of the disease which excites it. In the headaches accompanying a syphilitic taint, nothing is so serviceable as pills of iodide of iron (each containing a grain and a half) of which four should be given the first day, and the number should be increased by two daily. The headache usually disappears under this treatment in a few days. Headaches of a rheumatic nature, and sometimes even those that are symptomatic of cerebral disorder, are often much relieved by the local application of bags containing hot sand. This mode of treatment is much used by Trousseau. Lastly, in some very rebellious and obstinate cases, the application of a compress saturated with a solution of cyanide of potassium (1 part to 100 of water) has been found to be of signal service.

ART. 17.—*Narcotic Snuffs in Headache and Facial Neuralgia.*

By Dr. RAIMBERT.

(*Wien. Medizinisch. Jahrbücher*, 1, 1869, and *The Practitioner*, March.)

Dr. Raimbert, who has already obtained a certain amount of success with morphia used in this way, now recommends it further in conditions of nervous excitability which commence with sleeplessness, and are followed by severe headache. One and a quarter grains of morphia is mixed with about sixteen grains of gum-arabic powder; or, for children, about half the quantity of morphia. Of this powder from two to four pinches are to be taken, within half an hour or an hour, into each nostril. This is to be repeated two or three times daily.

ART. 18.—*A Case of Stomachal Vertigo subsiding under Treatment.*

Under the care of Dr. BUZZARD, of the National Hospital for the Paralyzed and Epileptic.

(*British Medical Journal*, December 19.)

In the third volume of his *Clinique Médicale*, Trousseau has described, with his usual graphic power, a functional disorder to which he gives the name "*Vertigo à stomocho læso*" or "*vertigo stomacal*." Transient giddiness asso-

ciated with faulty digestion is of every-day experience, but we do not often meet with an instance of such severity as the following, which bore a strong resemblance to the case upon which Trousseau founds his lecture.

The patient, James B., aged forty-eight, was a farm-laborer, a big, heavy man, of anæmic aspect, with a face scarred by innumerable wrinkles. His hair and beard were gray, and his appearance altogether that of a man several years older than his asserted age. His complaint was of "giddiness in the head," of which he had suffered attacks for a twelvemonth past. About every ten days or oftener he would get an attack, which he thus described: His stomach would first appear to be filled with wind; then there was noise in his ears, especially the left ear, a noise sometimes as of ringing of bells or of a railway train upon the line. This was immediately followed by giddiness, so great that he could not stand without holding on to some support. Sometimes, but not always, there were little twinkling lights before his eyes. If he lay down on his back the room would appear to be swaying and whirling over him, and the only relief he could obtain was by lying on his face. An attack would last from half an hour to two or three hours, during which time he could do nothing. After that he could resume work, but felt queer, dull, and heavy about the head for two or three days afterwards. He never lost his senses during the attack. He sometimes retched but never vomited. The attacks had been more and more frequent of late. In his earlier attacks he used to feel numbness in both thighs, and broke out in cold sweats. He fancied that tea and pork were both liable to bring on an attack. His general health had been very good with the exception of indigestion, from which he had long suffered. At twelve years of age he had acute rheumatism. He had never had gout.

On examination, his pulse was found good and regular, the area of cardiac dulness not increased, the apex beat in its normal situation, and there was no *bruit*. Other organs were also, as far as could be determined, healthy, and he showed no thickening of arteries. Urine, free from albumen, containing abundant lithates. On January 21st, the day of his application, Dr. Buzzard ordered him a grain of iodide of potassium, five grains of bromide of potassium, and ten grains of bicarbonate of potash, twice a day, to be taken during meals. Under this treatment the attacks immediately diminished in frequency and duration. He continued taking this medicine till March 17th, when half a drachm of tincture of calumba was added to each dose. On April 7th, it is noted, "He is a great deal better. He occasionally gets a mistiness before the eyes, but has had no attack of giddiness for five weeks." On May 19th, the experiment was made of discontinuing the alkali and bitter, and giving him five minims of the solution of persulfate of iron, three times daily. This did not answer; giddiness returned, and one grain of the iodide with five grains of bicarbonate of potash with a grain of tartarated iron was ordered twice daily. He continued to take this pretty regularly until September 8th, when he felt well enough to do without assistance. He had then had no attack of giddiness for twelve weeks.

Dr. Buzzard remarked upon the importance of a correct diagnosis in such a case as this, especially in private practice, where such excessive vertigo would be apt to be regarded by the patient and his friends as premonitory of some very serious head affection. The symptoms in this case were more than ordinarily severe, but, especially among professional men with much mental labor, it was not at all uncommon to meet with instances where less marked vertigo caused great distress and alarm. He had, indeed, lately treated a gentleman to whose temples leeches had been formerly applied for a vertigo which immediately depended, he had no doubt, as this man's did, upon imperfect digestion. They had made him much worse. It was amongst anxious persons, engaged in onerous business, that imperfect assimilation leading to such a symptom was peculiarly apt to occur, and for this reason, the affection was one which it was more common to meet with in private practice than amongst hospital patients. Whilst recognizing the influence of the stomach in causing these attacks, he believed that there was always a faulty condition of the nervous system which conducted to them—a condition, he thought, closely allied to the epileptic. In the case under consideration there was very evident anæmia; and, whilst he

gave alkalis to correct any acid (ascribable probably to acetic or butyric fermentation of food rather than to excess of gastric juice), he was careful also not to neglect the improvement of the man's blood by the use of steel. The iron at first ordered was given doubtless neither in the proper form nor dose, and it probably added to the difficulty of the stomach; the minute dose of a very mild preparation, the tartarated iron, answered well the intended purpose. As evidence of the probable morbid condition of the nervous system in such cases, he mentioned that he had seen patients in whom vertigo of precisely similar character was apt to be produced sometimes by faulty digestion, at others, through the medium of one or other of the special senses. Amongst such he instanced reading as liable, sometimes, to produce an attack; the rapid change of accommodation in the eye, caused by drawing distant objects; or gazing at moving bodies of troops. Occasionally, too, in persons so predisposed, shooting became an almost impracticable pastime owing to the vertigo induced by the noise of the discharge.

ART. 19.—*On Nervous Dyspepsia.*

By ARTHUR JULIUS POLLOCK, M.D., Assistant-Physician to Charing Cross Hospital.

(*The Lancet*, February 27.)

The following are the symptoms of nervous dyspepsia: The patient will complain of pain in the chest or "heart," which goes right through to her shoulders, and is often so bad that she can scarcely breathe. It comes on in spasms, and is often accompanied by palpitation of the heart, giving rise to a fear that that organ is affected. These pains usually occur after food or drink, and sometimes even a cup of tea will bring them on. There will often be a good deal of wind in the stomach and bowels, which latter are generally constipated. The urine is high-colored and scanty, or thick, the tongue coated as a rule with a yellowish fur, though it will not unfrequently be found quite clean or unnaturally red. She is sick at times, occasionally bringing up her food, but often nothing but water. The appetite is bad, the breath foul, and there is an unpleasant taste in the mouth, especially on waking in the morning.

The nervous symptoms are very various: great lowness of spirits and depression; anxiety without cause; an undefined dread of some impending evil; hot flushes and chills; the noise of her children distracts her; she cannot walk out in the streets, as the air feels "too strong" for her, and the number of people makes her very nervous; there is frequently headache, generally referred to the vertex, which she describes as feeling hot; her head "opens and shuts" at times; sometimes there are strange noises in the ears; icy chills run up the spine; there are curious sensations in the stomach and abdomen, as if something alive were in the bowels; flutterings about the epigastrium; a ball rising in the throat, &c. The catamenia are sometimes regular, sometimes occurring at intervals of three months or longer; and if the latter, the patient will attribute many of her uncomfortable sensations to "those things flying about her." Not uncommonly such a patient will have ceased to be poorly for a year or two.

The treatment of such a case is sometimes very simple and satisfactory; a few doses only of medicine, and a strict attention to the diet, bringing very great relief. More often, perhaps, the symptoms are rather obstinate, and it may take some weeks to effect much improvement. If the bowels are costive, the water thick or high-colored, and the tongue coated, Dr. Pollock generally begins by giving a mixture containing three grains of carbonate of ammonia, half a grain of ipecacuanha powder, three grains of rhubarb powder, twenty grains of bicarbonate of potash, to one ounce of peppermint water—three times a day, half an hour before meals; adding to it, if the nervous symptoms are prominent, half a drachm to one drachm of tincture of valerian. With this he orders some pills—the pil. aloes et assaf. of the British Pharmacopœia, five grains at night, when necessary; or if the bowels are pretty free, five grains of assafœtida every night. Dr. Pollock has reason to believe that the assafœtida is often very useful as a

nervine tonic, and in assisting to expel the wind; and he has been asked over and over again to give some more of "those" pills, in spite of their nasty smell and taste.

If there is much sickness, bismuth and chloric ether may be of great service, with or without the rhubarb and potash, and especially in those cases where the tongue is unnaturally clean. The author has not found much benefit from prescribing the liquor potassæ in nervous dyspepsia, nor from the dilute nitro-hydrochloric acid in the early stage, though at a later period this acid, with the compound infusion of gentian, is most useful in giving tone to the stomach. When the tongue becomes clean and the stomach less irritable, quinine will often complete the restoration to health; but he feels sure, from frequent experience, that it is worse than useless in the early stages, when the tongue is thickly coated and the stomach very sensitive.

The most important part of the treatment consists in great attention to the diet, and without which we cannot expect much from drugs. The food should be light and nourishing; it should be well chewed before swallowed; plenty of time should be taken over a meal, and not much food taken into the stomach at one time. It is difficult, from the circumstances of many patients, to get all this attended to; but most of them can do something towards it. Dr. Pollock thinks with regard to beverages, that as a rule it is best to avoid beer, by which he means malt liquor of any kind; and to replace the tea, which is often drunk in excess, by cocoa and plenty of milk. Weak cold brandy-and-water may be taken with advantage at dinner in many cases. With regard to beer, several patients have told the author that it is their only comfort, and seems to support and warm them; but he believes these feelings of comfort and support are usually dearly purchased by subsequent acidity and flatulence. Most dyspeptics have no appetite for breakfast, and, Dr. Pollock conceives, suffer a good deal in consequence from emptiness and flatulence. He has reason to know that taking breakfast for a few mornings, even much against the grain, will eventually create a desire for food at that time of the day; and as it is, perhaps, the most wholesome meal of any, much comfort will ensue. The author adds that heavy suppers are most injurious.

ART. 20.—*Treatment of Delirium Tremens.*

By WILLIAM M'CREA, M.B. Lond., Chief Medical Officer of Victoria, Australia.

Believing that congestion and inflammation of the membranes of the brain were the true causes of delirium tremens, Dr. M'Crea began, in December, 1864, to use leeches in the aggravated cases, applying twelve under each ear; the effect, he says, was very striking and beneficial, the excitement being greatly reduced, and very often, sleep following very rapidly the application of the leeches. In some cases an aggravation of the symptoms came on again, and again twenty-four leeches were applied with corresponding benefit. In one case a third application of twenty-four leeches was necessary, with the effect of permanently controlling the disease. For the last three years (1865, 1866, and 1867) this practice has been pursued. The patients usually arrive at the Melbourne gaol about 3 or 4 o'clock in the afternoon. Dr. M'Crea sees them at once, and all cases are subjected to one uniform treatment. An emetic is first given; after it has ceased to operate, cold affusion is extensively applied to the head, and, if the emetic has not acted on the bowels (which it often does), a brisk purgative of sulphate of magnesia is given. The patient is then put to bed in a quiet room, under the care of night nurses, who supply him with drink (tea or cold water), and keep a succession of wet cloths to his head during the night. In the morning, should the disease show no signs of yielding, twenty-four leeches are at once applied. During the course of the day, cold affusion is repeated at intervals of six hours, and if the bowels are not acted on, the purgative is repeated. If the symptoms are aggravated towards night, and the delirium becomes more violent, the leeches are repeated; but unless this is the case, another night

is allowed to elapse before the second application of leeches is had recourse to. Then, if there has been no sleep or signs of the disease yielding, the leeches are applied. As before stated, a third application may be necessary. The absence of any great amount of debility subsequent to the application of a large number of leeches was remarkable, and contrasted favorably with those severe cases which had been previously treated without the application of leeches.

The result of this practice is very striking, the mortality for the last three years till December, 1867, having been 1.1, or little more than 1 per cent.; and for the first seven months of the present year (1868) the mortality has been *nil*.

In the statistical statements of the Melbourne Hospital for the eleven years ending December, 1867, there were 278 cases of delirium tremens treated, the mortality being 37 cases, 13.3 per cent. Dr. M'Crea has no doubt these cases were all severe attacks. The mode of treatment is not stated.

Dr. M'Crea asks that the application of leeches, in such cases as require them, be not delayed beyond twenty-four hours after the commencement of the attack. The conditions to which the patients in the gaol were subjected were uniform in all modes of treatment—viz: perfect quiet, diet; for the first twenty-four hours, arrowroot and tea; afterwards, beef-tea, bread and tea; cold water for drink; and lastly, an entire absence of stimulants.

ART. 21.—On Organic Affections and Injuries of the Spinal Cord, producing some of the Symptoms of Spinal Hemiplegia.

By C. E. BROWN-SÉQUARD, M.D., F.R.S., Fellow of the Royal College of Physicians of London, Member of the National Academy of Sciences (U. S.), &c.

(*The Lancet*, May 22.)

In a case of evident disease of, or injury to, the spinal cord, if we find several, or even only one, of the following symptoms, we can, says Dr. Brown-Séquard, positively conclude that the lesion is located in one of the lateral halves of the spinal cord, and, still more, we can surely know in which of these halves it exists.

1st. A paralysis of voluntary movements limited to one of the lateral halves of the body, shows also that the lesion is in the corresponding half of the spinal cord.

2nd. A paralysis of the muscular sense in one only of the lateral halves of the body, shows also that the lesion is in the corresponding half of the spinal cord.

3d. A paralysis of the vaso-motor nerves, chiefly evidenced by an elevation of temperature in one of the lateral halves of the body, equally shows that the lesion is in the corresponding half of the spinal cord.

4th. Hyperæsthesia—i. e., an increased power of feeling and not pain—in one of the lateral halves of the body, clearly indicates also that the lesion is in the corresponding half of the spinal cord.

5th. The various local and facial symptoms, which we know as effects of the paralysis of the cervical sympathetic nerve—i. e., vascular dilatation, elevation of temperature, hyperæsthesia, partial closure of the eyelids, constriction of the pupil, &c.,—in one of the lateral halves of the head and face, positively show also that the lesion is in the corresponding half of the spinal cord.

6th. Anæsthesia in one of the lateral halves of the body leaves no doubt that the lesion is in the opposite half of the spinal cord.

The facts Dr. Brown-Séquard has brought forward, and the deductions he has drawn from them, give, he writes, a strong foundation to the two following propositions, relating also to cases in which it is known that an injury or a disease exists in the spinal cord.

1st. When a paralysis exists in both sides of the body, in a greater degree, however, in one than in the other, the lesion is in both sides of the spinal cord, but chiefly in the side corresponding to that of the greater degree of paralysis.

2d. When a complete or very marked anæsthesia exists in one of the lateral

halves of the body, with some diminution of sensibility, instead of hyperæsthesia, in the other half, the lesion exists chiefly in the lateral half of the spinal cord corresponding to the side of least anæsthesia, but it extends slightly to the other half of the spinal nervous centre.

Other features of organic affections or injuries in the cervical region of the spinal cord deserve notice; these peculiarities are—1st, that a lesion in the upper part of the cervical region of the spinal cord, can produce anæsthesia in the lower, or the upper limbs, according to its location, and that, consequently, the conductors of sensitive impressions, for the lower extremities do not pass through the same part of the spinal nervous centre as those of the upper extremities; 2dly, that a lesion in the upper part of the cervical region of the spinal marrow can produce paralysis of voluntary movement in the lower limbs alone, or in the upper limbs alone; and that consequently the conductors serving to that kind of movement for the upper extremities do not pass through the same part of that nervous centre as those going to the lower extremities.

ART. 22.—*On Going to Sleep.*

By CHARLES H. MOORE, F.R.C.S., Surgeon to the Middlesex Hospital.

In his highly interesting and valuable brochure "*On going to Sleep*," Mr. Moore writes: "The mechanism of sleep appears to act thus upon the brain. Wakefulness opens the arteries, superseding the influence of the ganglia over them. If intense and prolonged, wakefulness perhaps exhausts the ganglia, but certainly leads to a loss of tone in the cerebral arteries, which throb and are distended beyond the power of contraction, though the brain be weary. No exercise of the brain therefore can put it to sleep. But subsidence of its powers to a degree short of extinction gives occasion to the exercise of another power, which is withheld during the energy of the brain from producing sleep. The first power, that of the brain, overwhelms the less, which is that of the ganglion. Let the first moderate, the influence of the second rises. It is not necessary to conceive this latter as more than an automatic action, a resumption by the ganglion of its natural energy, which is forthwith expended upon the muscle with which it is connected. Be the brain therefore weary, or bewildered out of its attention, or soothed by a monotonous sound, or simply unoccupied, straightway the ganglia, set free for separate action, usurp supremacy, not over the brain, but over the arteries. The exact proportion of activity between the brain and the cervical ganglia which is requisite for setting the latter free is a matter of degree only, and is from the nature of the case undefinable, and possibly variable. But this indefiniteness, in fact, characterizes the subject. It is intelligible only as an exquisite balancing of uncertain forces, and too absolute a mind misses the fact of their relation in the shifting and vagueness of it. They sleep soonest who sleep the least. But with those to whom thinking is a necessity or a delight, how delicately poised sometimes is the alternative of sleeping and waking! The power seems to oscillate between mental willingness to withdraw from thought and some unknown faculty which we can neither localize, nor feel, nor woo, and the accession of which to its desired supremacy waits only for an instant when we give up the attempt to command it, the effort to yield to it, the feeling even to long for it: for all such occupation of mind, as it keeps the brain active, withholds from the bloodvessels their ganglionic stimulus to contract. But at any moment when the attention of the brain is unconcentrated, instantly the ganglia become uncontrolled and primary nervous centres, and reduce the size of the arteries.

It may sometimes be that the arteries do not wholly contract at once, and that, indeed, usually the supervention of deepest sleep is not sudden. It is, doubtless, always so far gradual as to be due to the most thorough contraction of the arteries. Occasionally, the brain, while moderating its own activity, but still alive to any sensory discomfort, may be again aroused, and again supersede the ganglia. Thus, while sleep is doubtfully coming and going, there may be variations in the size of the arteries, corresponding with the alternate depar-

tures and returns of consciousness. But all lessening of the blood-stream tends to reduce the capability of the brain for action, and gives an advantage to the ganglia which increases until the arteries are duly shrunken, and the sleep is complete.

The mystery of going to sleep accordingly consists in the fact, that sleep obliterates the very faculties by which alone we might discover its nature. In the present state of existence we know ourselves through the body, and so long as we are possessed of the sensations and consciousness due to the body we are not asleep. During any temporary extinction of those faculties, all knowledge is interrupted, including even the manner of the interruption, since the faculties are abolished by a mechanism through which we neither feel nor think. The structures fulfilling this function even dispossess the will, acting themselves involuntarily whilst depriving the brain of its function. And they act imperceptibly, both because they are themselves devoid of prompt feeling, and also because in their action they abolish that sense through which we could be made aware of the action. Such power, and still more that of annulling our consciousness in respect to thought, are surprising enough; but yet more so perhaps is the want of any direct relation between the mechanism which produces sleep and the influences which disturb it. The arteries being outside the brain, and the ganglia which rule them being in the neck, both are wholly indifferent to impressions which may be made on the organs of sense. Light and sound, for instance, reach only their appropriate organs, and do not affect cervical ganglia, or the arteries which keep the brain asleep. Hence it is that sleep, when profound, sometimes persists through great external disturbances, the mechanism of sleep being neither of a nature nor in a position to be in the least degree influenced by them."

ART. 23.—*Progressive Muscular Atrophy, with Complete Paralysis of the Extremities; Cure by means of the Continuous Current.*

By Dr. NESEMANN, Magdeburg.

(*Berl. Klin. Wochenschr.* v. 37, 1868; *Schmidt's Jahrb.*, I., 33, 1869; and *British and Foreign Med.-Chir. Review*, April.)

A workman, aged nineteen, some months after a normal attack of measles, from which he had perfectly recovered, complained of a weakness in the arms. In three weeks this had increased to absolute paralysis, and in the fourth week he had also paresis of the legs.

On admission into hospital there was found great emaciation of the whole body, caused by atrophy of the muscles, the wasting being especially noticeable in the muscles of the hands, and, most of all, in those of the balls of the thumbs, and in the deltoids. Voluntary movement was totally lost in the arms, but the hands were not bird-claw like. In the legs there was only paresis, the extensor muscles being most affected. Faradaic contractility of the muscles was everywhere diminished, and was in direct proportion to their remaining volume and degree of voluntary power. Cutaneous and muscular sensibility were normal, as also were the functions of the cerebral nerves, the bladder, and the rectum.

The diagnosis of progressive muscular atrophy was confirmed by "harpoon-fing" the deltoid muscles.

During the next two months the disease made rapid progress, and as the paralysis advanced atrophy increased, and faradaic contractility diminished; but respiration, appetite, digestion, and sleep remained unaffected. During this time faradization was used to the muscles individually.

Three months after the patient's admission the treatment by galvanism was begun, and the cervical sympathetic was daily galvanized for ten minutes. Slight improvement was noticed after only a week's treatment. Motor power increased in the legs first; but it was not till six months after the commencement of galvanization that the patient could walk even imperfectly. It was nine months before he could use his arms at all; but after a year the improve-

ment was rapid. The muscles grew in bulk simultaneously with their gain in power. Galvanisation was discontinued at the end of sixteen months, but improvement continued, and two months later the patient was perfectly well. On his discharge from the hospital a fragment of muscle was again *harpooned* out of the deltoid. The transverse series of the muscular fibres were well and clearly marked, but here and there some minute oil-globules were seen between, and in otherwise normal fibres. Then, as six months previously, the nerve fibres, visible in the several preparations, appeared to be perfectly normal.

ART. 24.—*Treatment of Chorea.*

By SAMUEL WILKS, M.D., Physician to, and Lecturer on the Practice of Medicine at, Guy's Hospital.

(*Medical Times and Gazette*, February 6, 1869.)

Many years ago, seeing that every medicine in the Pharmacopœia as well as several others out of it, were said to be equal to the cure of chorea, Dr. Wilks determined to watch the disease untrammelled by medicines, and he found that in many cases a speedy recovery took place without the administration of any medicine whatever. The cases which did best were the severe ones, excepting always those which were of the most violent and acute description. The first case which he watched was a little girl who had severe chorea; she was too bad to be able stand, and was obliged to have sideboards to her bed to prevent her wriggling out of it. This child began to improve in a day or two, and went out well in a month. This is only one example of several of the same kind. Dr. Wilks takes it that the patient, being subject to constant excitement or improper treatment at her own home, has her disease there perpetuated, whereas when brought to the hospital, being under the influence of strangers who endeavor to make her suppress the movements, and by the additional advantage of good living, she begins to recover. He should say that a weakened condition of the nervous centres being at the root of the malady, good nourishment and the tonic plan are necessary. After having learned the fact that the tendency of the disease is towards recovery as soon as all the circumstances which formerly surrounded the patient were removed, Dr. Wilks soon afterwards learned that the cure is expedited by tonic medicines of the mineral kind, and this is the experience of the majority of the profession. Dr. Wilks does not believe that iron or zinc act in any specific manner; they are useful, but operate as nervine tonics. Dr. Elliotson many years ago acquired great fame by his success in the treatment of chorea, his remedy being the red oxide of iron. It is given, and it is one of the best of remedies; children very willingly take half drachm doses in treacle. Probably an equally favorite remedy is the zinc—in fact, it is the medicine most commonly given, beginning with grain doses, and increasing to any amount, as a scruple three times daily. A favorite remedy of Dr. Wilks's late colleague, Dr. Hughes, was rhubarb steeped in port wine; the children were thus well kept up at the same time that the stomach and bowels were improved in condition.

In very chronic cases, and those where a part of the body only is affected, medicines are of little use. In some of these electricity has been so sometimes curative; in some cases shower-baths have acted with the best success. One writer has advocated the use of liniments, as of chloroform, to the spine. Often nothing less than a thorough change of scene will suffice to break the habit. If this opportunity do not occur, gymnastic exercises are of use. They not only strengthen the muscles and nerves, but they break the bad habit; they convert, in fact, an irregular movement into a regular one. If the arms are constantly moving, and are then employed in grasping a beam for swinging, a new and altered condition of the whole machinery accrues, and in time the habitual irregular actions are worn out.

ART. 25.—*Progressive Muscular Atrophy.*

By SAMUEL WILKS, M.D.

(Medical Times and Gazette, December 5, 1868.)

This is a paralysis in which the muscle itself wastes. Clinically, the case is a clear one; the muscles waste, and thus a form of paralysis is produced of a very striking kind. The disease appears to commence in the upper extremities, and is often confined to them, commencing in one arm or a part of the arm. Thus most frequently our patients walk into the hospital and present little amiss with them at first sight, but you then observe their drooping shoulders, and their arms hanging at their sides as if they did not belong to them. On stripping the patient you see his remarkable condition—not a mere thinness or ordinary wasting from the absorption of fat, but the muscle itself has degenerated; you see the acromion projecting and the deltoid flat, the trapezius wasted and the head falling forward. The biceps in the same manner is wasted, as well as the muscles of the forearm and hand; it is in the latter that you generally at once recognise the disease. The muscles of the thumb or hypothenar eminences have disappeared, and owing to the shrinking of the interossei, there are deep furrows between the metacarpal bones. As a consequence, the fingers become drawn back until the hand puts on the appearance of the talons of a bird of prey, and thus the French have given it the name of *main en griffe*, or griffin's claw. The forearm in like manner has lost its roundness and become flattened. The whole appearance of the patient is most striking; he stands with his head bent forwards, or even in bad cases with his chin resting on his breast; his arms hang down in front of him as if they were merely attached to him by strings or ligaments. His chest does not expand freely, and his abdomen is loose and projects. If his legs have become affected, they have lost their roundness, and the muscles of the face may at last have become involved, so that the patient presents an idiotic expression, and dribbles from the mouth. Finally, the chest may become more affected, then the laryngeal muscles; the vital process of respiration is attacked, the voice is lost, the mucus collects in the tubes, expectoration fails, and death ends the scene.

It is remarkable that just as in the locomotor ataxy the disease is more especially confined to the lower end of the cord, and as a consequence the legs may be solely affected, so in the progressive muscular atrophy it is the arms which are primarily and principally paralysed. In the early cases you will have carefully to test what muscles, and to what degree they are affected, and you will find that the paralysis does not follow the distribution of any particular nerve. As you are treating your patient, you test the increase of power by making him raise his arm, then place it before him, see how far he can stretch it behind him, and then test the extension, flexion, and pronation of the forearm, &c. You may sometimes remark, as Cruveilhier pointed out, a remarkable tremor or quivering of the muscles, especially the trapezius, when you attentively watch it; or you may bring the movement out by gently tapping the surface.

The following is Dr. Wilks' remarks, one of the most remarkable examples of recovery from a malady apparently incurable that he has ever witnessed, and one of the worst cases of progressive muscular atrophy that have ever been cured, for it is simply impossible that the disease could have existed in any more severe degree than was here present.

"A girl, aged twenty-four, was sent to the hospital on July 4, 1866, by my friend Dr. Buzzard. She lived in the country, and owing to a number of circumstances connected with family affairs she began to fail in health about eighteen months before her admission. A weakness and wasting began in her arms, and then in other parts of the body, until in six months' time she was obliged to take to her bed. During the year she kept her bed she passed her motions involuntarily, and was in a perfectly helpless condition; menstruation had altogether ceased. On admission she was seen to be in the most pitiable con-

dition that you can well imagine—she was so emaciated that she was little better than a skeleton. She lay on her back scarcely able to move or raise her arms from her side. Her fingers were contracted into the griffin's-claw shape. The interossei seemed to have quite disappeared, so that the tips of one's fingers could be felt between the metacarpal bones. The radius and ulna showed their complete outline throughout. In same manner were the legs wasted, and the abdomen so flat that the spine could be clearly felt. In fact, all the muscles were so atrophied that I believed that they must have disappeared, a little fibre tissue remaining in their place. She had a slight blue line on the gums, which suggested poisoning by lead, and therefore Dr. Buzzard took the trouble to visit her home in order to see if she could have been poisoned unwittingly by this metal, but he failed altogether in proving it. She was, however, ordered some iodide of potassium and faradization to the arms and legs. The galvanism produced no effect on the extensor muscles, and only a slight one on the flexors. It was, however, rigidly followed up by Mr. Bradford Edwards and my other clerks, and to these gentlemen she owes her restoration to health. In two months' time it was very evident that she was better; she could move her limbs, and the muscles had grown visible. In another month she could use a fork, and was able to write a little. In November she was able to get up and walk across the ward by means of a chair, and the catamenia had returned. She continued the faradization, and the cure progressed more quickly until January, when she left the hospital convalescent. It was three or four months after this that she called on me to show herself. I did not recognize her at first, as she was a ruddy plump girl, and said she was in good health."

The cause of the disease and its pathology, Dr. Wilks writes, are very obscure. Some have considered that it was due to injury, others to cold or placing the hands in cold water. Those who trace its origin to disease of the medulla would look to causes operating on the centre, and thus, in two cases described by Dr. Gull, there was a distinct history of an injury to the spine. What we find on examination is an atrophy of the muscles. The tissue is withered, the sarcoous element gone, the markings have disappeared, and granules taken their place. Some of these may be composed of fat, but the change in the muscle is not a simple fatty degeneration. Cruveilhier thought that this was the essence of the disease, and, as a consequence, the nerves supplying the muscles wasted; the atrophy being most apparent in the anterior roots as they enter the spinal cord. He found no disease of the cord itself. Virchow, however, observed in one case that the medulla was pervaded by a gray translucent substance. In the one described by Dr. Gull there was disease in the cord, and in that just mentioned lately under my own care the change in both the white and gray portions was most marked. Dr. Lockhart Clarke's researches have quite confirmed the view of progressive muscular atrophy being a central disease.

We have, then, three theories for the disease: the one that it has originated in the spinal cord, another that the anterior roots of the nerves are in some way primarily affected, and a third, the theory which until quite lately has generally been received, that the disease commences in the muscles themselves. Those who hold the last opinion would not, Dr. Wilks believes, deny that the cause might be so far nervous that the wasting of the muscle is due to a failure of nutrition, and that this might be brought about by a change in the bloodvessels, influenced by the vasomotor nerves, but they would still maintain that the disease is peripheral and not central. This width of opinion ought of course to be granted in all cases where a change of tissue is spoken of, unless a special element has been actually found to be primarily affected.

An argument formerly used against the supposed spinal origin of the affection, that there is no necessary atrophy in hemiplegia or the paraplegia of spine disease, is no longer of weight, since it is believed that the nerves are compound, and that the filaments of which they are composed originate in the different functional spheres of the cord or brain, and consequently that morbid changes in particular portions of the centres would only cause paralysis of some of the nerve-fibres—that although a destruction of the whole trunk would necessitate

a paralysis of every function which it possessed, yet that a disease in one part of the cord where certain fibres originated would destroy only one function, and disease in another part some other function. Thus, in disease of the brain producing hemiplegia, motion and sensation may be lost, but nutrition remains, and the same may be seen in many forms of paraplegia arising from disease in the medulla; but in the present case it would be naturally surmised that the nerves of nutrition were attacked. It has not yet, however, been positively shown whether this nutritive element of a nerve is derived direct from the cord or merely from the sympathetic, which joins the spinal nerve. If from the latter, we might suppose a disease of the cord and of anterior roots to be the prime mischief. But experiments seem to prove that the integrity of a nerve is due to the healthy state of the ganglion on the posterior root, and thus a disease situated therein might explain the pathology of muscular atrophy. Dr. Wilks believes he is right in saying that this is Lockhart Clarke's suggestion. At the same time, this fact must be borne in mind—that injury to the nerve which excites the muscle to action not only paralyzes the muscle, but occasions its atrophy.

ART. 26.—*Lead Paralysis.*

By SAMUEL WILKS, M.D.

(*Medical Times and Gazette*, December 5, 1868.)

This disease, Dr. Wilks writes, so exactly resembles that just described that it is very often impossible to distinguish between them. If the metal has been thoroughly implanted in the system, a fatal result may ensue. All the tissues of the body degenerate, the skin assumes a remarkably waxen appearance, the nerve centres more especially suffer, and the patient becomes at last paralyzed both in body and mind. A mania or dementia may result, accompanied by epileptic fits. In a less degree the effects are constantly seen, as in the drooped wrist of the painter, followed by a paralysis of the whole arm, in which the muscles waste just as in the disease described. Dr. Wilks has more than once seen a patient admitted and treated for progressive muscular atrophy, in whom there has been a lead line on the gums and a good history of plumbism. It might be thought that so analogous a result might elucidate the pathology of the idiopathic muscular atrophy; but as yet it proves no more than that nutrition is affected through the influence of the sympathetic nerves on the blood-vessels. Lead, as you know, is given to arrest hemorrhage, and acts by constringing the vessels. You can therefore see how its overaction or its continued action would produce an atrophy of its tissues. Duchenne states in his work that we have one means by which we can distinguish between lead palsy and the idiopathic atrophy. In the latter the most remarkable wasting is seen in the interossei and other muscles of the hand, so that the claw shape is produced. In lead palsy the effect is most marked on the extensor longus digitorum, and as this muscle, when healthy and excited by faradization, is stated by Duchenne to act only on the first phalanges, and has no influence on the second and third digits, it consequently follows that if this muscle is paralyzed, as in plumbism, and the arm and wrist be supported on a table, the fingers can still be extended or raised, which cannot occur in the progressive muscular atrophy when the interossei and lumbricales are affected.

ART. 27.—*Mercurial Paralysis.*

By SAMUEL WILKS, M.D.

(*Medical Times and Gazette*, December 5, 1868.)

Dr. Wilks next alludes to mercury, as its poisonous effects have occasionally been referred to spontaneous causes, and because, in a complete saturation of the system, the nervous centres seem to be most strikingly affected. Formerly the effects of mercurial vapor were constantly seen in looking-glass makers and water gilders, who exhibited the well-known mercurial tremor, and these same

persons, if they persisted in the employment, became at last quite shattered in health. Such instances are at the present time by no means numerous. Dr. Wilks has seen, however, within the last few years, two cases showing in a much more striking manner the destructive nature of mercury, but in neither case were they due to the inhalation of the metallic fumes as formerly witnessed.

The first case was that of a man admitted into Guy's Hospital for a form of general paralysis from which he was suffering. It was discovered that he had been in the habit of packing the skins of animals, and that these had been washed with an acid solution of mercury. For three years he had been employed thus, when he began to experience a general muscular weakness. He could scarcely walk, and, when attempting to do so, it produced a general tremulousness over the whole body. When lying down, he had spasmodic movements of the chest and of the muscles of the body, resembling those of chorea. He gradually became more feeble, delirious at times, and he afterwards fell into a state of unconsciousness. The post-mortem examination showed no evident disease of any of the organs, but a chemical analysis by Dr. Taylor proved the existence of mercury in many of the tissues of the body.

A more marked case than even this of the destructive effects of mercury on the body Dr. Wilks had an opportunity of seeing in St. Bartholomew's Hospital. A young man had been engaged in the laboratory in the preparation of mercurial methide for about three months, when he began to complain of dimness of sight, numbness of the hands, and general weakness. These symptoms increased, until at last he was obliged to be sent to bed. When Dr. Wilks saw him he was almost completely paralyzed; he was lying prostrate in bed, perfectly helpless, being scarcely able to move either his arm or legs, and there was paralysis of the bladder. He could not speak, and was quite deaf. The heart's action was quick and feeble. The mouth was not sore, but the gums had been at one time spongy, when there was also fetor. He got weaker and weaker, and died in about a fortnight.

Another young man employed in the manufacture of the same article was also similarly affected, the symptoms being those of a complete paralysis of body and mind. He lost all feeling, all power of motion, became deaf, unable to speak, and quite idiotic.

ART. 28.—*Treatment of Diseases of the Nervous System.*

By SAMUEL WILKS, M.D., Physician to, and Lecturer on the Practice of Medicine at, Guy's Hospital.

(*Medical Times and Gazette*, April 10, 1868.)

The remedies for nervous diseases are mostly of two kinds. There are those which act directly on the nervous system, and are hoped to cure either by setting up a counter-action, or by producing a temporary soothing effect until time works the result, and there are those which are styled the nervine tonics, consisting mostly of the metals.

Amongst the former there are few which Dr. Wilks believes can be regarded as valuable remedies in diseases of the nervous system. Thus *opium*, which by its indirect influence on nutritive processes, is one of the most valuable remedies in the Pharmacopœia, is all but powerless in such diseases as mania, chorea, tetanus, and convulsions of all kinds. An all but poisonous dose may arrest the symptoms for a time, but only for them to recur with the same violence as before. *Belladonna*, again, may, through the nerves, control the disordered action of a particular part, but the author thinks very little can be said favorable to its influence over diseases of the brain and spinal cord; he excepts a few cases where epilepsy has been apparently relieved by it. So with *conium* and *henbane*, remedies which are useful in complaints of other organs than the brain. Dr. Wilks would say the same of *strychnia*, a medicine the effects of which are slight, considering the extent to which it is administered. Its general effects on the nervous system are as disappointing as its direct effects on the stomach are encouraging, for he regards it as one of our best tonics in some forms of dyspepsia. The same may be said of *aconite*; it is a drug which,

acting powerfully on the nervous system, influences nutritive processes in various parts, but its direct operation on the centres to alter their morbid states appears to be very slight indeed.

Chloroform, which, as a temporary remedy, produces such a wonderful stillness of the nervous system, produces no permanent effect. Dr. Wilks can say little more of *cannabis indica*, *camphor*, *physostigma*, *prussic acid*, and such like medicines, which have such a powerful physiological effect on the nervous system; in the treatment of disease they could not be exchanged for the more simple drugs, as nitrate of potash or sulphate of magnesia.

Remedies which act indirectly, it may be, upon the bloodvessels of the centres, such as the metals, have contributed more than any other means to the cure of nervous disorders. Foremost stands *iron*, and then *zinc*; *silver* has been found useful in some cases, and in not a few *arsenic*. The most striking effects are seen in neuralgia, where iron and arsenic are often found to produce a cure without any possibility of doubt. In this class of affections arsenic is one of the most important medicines which we possess; it is difficult to foretell a cure, but in tic of face, sciatica, pleurodynia, gastralgia, and other nervous affections its beneficial effect is often most marked. There is again *quinine*, which has cured more nervous disorders than all the physiological remedies combined.

In speaking of the method of introducing medicine by the skin—the hypodermic method, Dr. Wilks says the advantages are that it acts speedily, and does not injuriously affect the system as when taken by the mouth. He has seen a gentleman who suffered agonies with spine disease take morphia in the usual way, and it produced sickness, parched mouth, and other unpleasant symptoms, and at the same time long before the system responded to its influence; but when injected through the skin it speedily soothed the system, relieved the local pain, and no unpleasant consequence resulted.

Then, again, amongst the remedies for local nervous affections we have local remedies, and these are of various kinds. There is the class of soothing medicines already named, made into the form of liniments, ointments, &c. These are sometimes useful, but often less efficacious than applications of an altogether different kind, as blisters and hot applications. There are many instances where a blister is efficacious after every soothing remedy has failed, and as regards hot applications, Dr. Wilks states he cannot speak too highly. Besides the heat, stimulating lotions are highly efficacious, as the tincture of capsicum or mustard. Amongst popular remedies is the tinctura *arnicæ*. Dr. Wilks cannot say that his experience of it has been large, but has seen enough of it not to ignore it, but considers it to be sometimes a useful remedy. In one case of a patient who had a violent neuralgic pain following shingles, *arnica* was used, and the patient soon got relief, but at the same time an eruption came out, which is very usual after the use of this drug. The lotion was then discontinued, the eruption faded, and the pain returned. In this case it seemed to act as a counter-irritant.

Just as hot applications are useful in many painful affections of the nerves, so is the cold douche in some paralytic conditions. The author has seen cases of writers' cramp and such like maladies much benefited by allowing a stream of cold water to run upon the weakened limb.

In speaking of galvanism, Dr. Wilks says some of the cures at Guy's Hospital have been most remarkable. Its value has been greatest where faradization had previously failed. Thus in lead paralysis, where very little result had previously been seen by the induced current, a more marked effect was here obtained. There are different kinds of paralysis in which the induced current and the constant current respectively their curative effects; but much yet has to be learned as to the further application of the remedies. It is beginning to be used in painful affections of the nerves and muscles, as neuralgia and myalgia. Cases have been reported of its efficacy in sciatica, and as regards the muscular painful affections in hysterical women its value Dr. Wilks has seen. Even the pains attendant on organic disease of the spinal cord are relieved by the application of the continuous current. Much care is required in its management, for, if galvanism is a useful agent, we may suppose it also to be injurious if wrongly

applied. In the experiments on frogs and other animals, if a current pass down a motor nerve, the function is increased, but an opposite effect produced if the poles be reversed. Whilst the current passes downwards the hind legs are moved; if the poles are reversed, the front legs are moved, and the animal at the same time cries out.

It has already been put into use to stimulate the uterus; also the bowels in constipation, also in aneurism to produce coagulation of the blood.

ART. 29.—*Pathogenesis of Epilepsy.*

By C. E. BROWN-SÉQUARD, M.D., F.R.S.

(*British Medical Journal*, February 6.)

Dr. Brown-Séquard has communicated to the French Academy the results of new researches which he has made upon animals in order to study the effects of lesions of the spinal cord. Carrying further his well-known experiments of cutting one of the lateral columns of the spinal cord near the tenth dorsal vertebra, he has ascertained that epileptiform attacks may be induced in guinea-pigs, not only by this means, but also by the section of the cord higher up and nearer the bulb. He has also seen the attacks occur after a double section in the muscles innervated by the segment of the cord comprised between the two sections. Thus it would seem that the greater part of the cord takes an active part in the production of the convulsions. The brain seems to take no part in them. He has removed the brain, cerebellum, and pons from these epileptic guinea-pigs, maintaining life by artificial respiration. The epileptic attacks have continued, in spite of the removal of the encephalon. In the course of the discussion, M. Colin threw doubt upon the truly epileptic character of these attacks. Dr. Brown-Séquard said he had only once been able to produce epilepsy by unilateral division of the cord in any other animal than a guinea-pig; this was in a cat. The attacks produced in the guinea-pig were truly epileptic; and the epilepsy so produced was hereditarily transmitted. M. Hardy said that clinical observation in the human subject showed that compression or injury of the brain, traumatic or by tumor, especially the posterior part, did produce epileptiform symptoms; while injuries of the spinal cord did not. There was a complete discordance between these clinical observations and the results of Dr. Brown-Séquard's experiments. Dr. Brown-Séquard said that, after analyzing hundreds of cases of cerebral lesion, he was convinced that diseases of the cerebral substance were incapable of producing epileptic symptoms; and that, when these occurred in the course of encephalic disease, he was disposed to attribute them to concomitant lesions of the meninges. M. Ricord confirmed the experience of M. Hardy.

ART. 30.—*On the Treatment of "Epileptiform" Neuralgia in its Earlier Stages.*

By FRANCIS E. ANSTIE, M.D., F.R.C.P., Senior Assistant-Physician to the Westminster Hospital.

(*The Lancet*, January 9.)

The following is the treatment recommended by Dr. Anstie: 1. Counter-irritation of a peculiar kind. 2. Nutritive tonics. 3. Subcutaneous injection of morphia, or of atropia, according to circumstances.

1. Counter-irritation, Dr. Anstie writes, to be useful in epileptiform facial tic, should not be applied to the branches of the fifth, but to those of the occipital nerve, at the nape of the neck. A blister in the former situation is as often hurtful as useful: in the latter, it is sometimes strikingly effective in gaining a short respite. And this is of very great consequence in this awful disease; for the mere fact of such pain being allowed to continue is itself of the worst possible omen. 2. The assiduous use of cod-liver oil, or of some fatty

substitute for it, should be insisted on from the first, and is of the highest consequence. 3. Subcutaneous injection places us in a totally different position towards the use of opium in spasmodic tic. There is no longer any excuse for the use of enormous doses of opium from the first. It will be sufficient to commence with the use of one-sixth of a grain of morphia twice daily, increasing this, if necessary, to one-fourth and one-half a grain; and, in rare cases, to one grain. If this produces, along with the other measures, a notable remission of the pain, it should be cautiously and steadily decreased, as circumstances may admit. In cases where morphia fails, atropia may be tried, in doses commencing at one-sixtieth of a grain. The injection of a less quantity than this would probably be useless in severe tic.

ART. 31.—*Treatment of Epilepsy.*

By C. E. BROWN-SÉQUARD, M.D., F.R.S.

(*Diagnosis and Treatment of Functional Nervous Affections*, 1868.)

Dr. Brown-Séquard states that his usual prescription for epilepsy is as follows:—

Iodide of potassium, one drachm.
Bromide of potassium, one ounce.
Bromide of ammonium, two drachms and a half.
Bicarbonate of potash, two scruples.
Infusion of calumba, six fluidounces. Mix.

A teaspoonful of the mixture to be taken before each of the three meals, and three teaspoonfuls at bedtime with a little water.

In syphilitic cases he increases the amount of iodide of potassium. In administering the bromides it is necessary to give a relatively larger dose at bedtime, and smaller doses in the day if sleepiness is caused. The medicine should be pushed till anæsthesia of the fauces is produced, and an acne-like eruption appears on the face, neck, and shoulders, &c. The bromides should be continued for fifteen or sixteen months after the attacks have ceased. An occasional purgative ought to be given, and if any debility be produced by the use of the bromides, wine and nourishing food should be used, with cod-liver oil, arsenic, strychnia, &c.; and the cold douche or shower-bath employed.

ART. 32.—*Cases of Epilepsy, and Remarks upon their Treatment.*

Under the care of Dr. BEIGEL, of the Metropolitan Free Hospital.

(*Medical Times and Gazette*, February 13.)

We are indebted to Dr. Hermann Beigel for the following valuable report upon the treatment pursued by him in cases of epilepsy:—

“My theory concerning epilepsy is as follows: From the results of former experiments it has been shown that depletion of the cerebrum and the medulla produces general epileptiform fits. But these experiments have not proved that similar results may ensue when such depletion takes place in a limited district—for instance, a group of muscles, or even one single muscle. Depletion gives rise at once to a change of nutrition in the nerves supplying such muscles, and consequently the muscle itself becomes irritated as if by electricity or other irritant. There is good ground for believing that in epilepsy the vaso-motor nerves are the parts primarily affected, in consequence of which the muscular layers of the vessels become contracted. This may be more or less complete, and may be general or partial, according to the nature of the primary irritation of the vaso-motor nerve. If the contraction of the vessels is general—that is to say, if the nervous centres are implicated—the question of its intensity arises. If it be extreme, loss of consciousness sets in; if not, convulsions may occur without loss of consciousness, or neither loss of consciousness nor convulsions occurring, the fit consisting merely of giddiness, impaired vision,

and other more or less obscure symptoms, a prominent part of which is constantly impaired circulation through the capillary system. The action of the heart generally remains more or less normal. If the vaso-motor nerves of a limited district be irritated, then, of course, a similarly limited group of muscles will be affected, and perform contractions—a process which must be considered as epilepsy of these muscles. This is a matter of great practical importance, inasmuch as experience teaches us that these forms of limited epilepsy may at any time become general if the patient indulges in any excess of food, &c., and that, on the other hand, general epilepsy, under proper treatment, may be converted into these slight local convulsions, which sometimes produce comparatively little inconvenience to the patient.

“These facts are borne out by the results of experience on which we cannot dwell here, and by the mode in which epilepsy in the largest number of cases is acquired, and by the results obtained by treatment, or, as the old physicians used to express it, *ex juvantibus et nocentibus*.

“It is a well-known fact that the larger number of cases of epilepsy—at all events a very large number of cases—are acquired by strong emotions or mental affections, particularly such as act suddenly and intensely—sudden shock. Now, this admits no other explanation than that of sudden change of nutrition in the nervous spheres, and further observations lead us to believe that the vaso-motor nerve is the sphere primarily so affected.

“Concerning treatment, we are all aware that amongst the large number of remedies, such only have any visible effect as belong to the class of nervines. According to my experience, which extends over several hundred cases, there are only two remedies which render good, and even very good service, in the treatment of epilepsy—namely, large doses of bromide of potassium, and morphia if used hypodermically. I have tried nearly all drugs recommended by the authors on epilepsy, but failed to see any result worthy of notice. But bromide of potassium has doubtless the power of delaying the attacks, so that a patient who has previously had perhaps several fits in one week, has one every few months—a delay which remains stationary in many cases, even after the remedy has been left off, provided it has been taken for a sufficiently long period. The same result is obtained by hypodermic injection of morphia, which acts much more rapidly and intensely. I use the bromide of potassium in children and in such adults as are ill-nourished, and employ hypodermic injections if no other complication exists with true idiopathic epilepsy.”

To these remarks Dr. Beigel adds several cases, not, however, to show that the results of the treatment by bromide of potassium or hypodermic injection of morphia, or a combination of both, which, in some cases, may become necessary, will be the same in all instances, but to show that this kind of treatment is capable of producing very good results, if employed for sufficiently long periods, in cases suitable for the treatment. Of course, even when these conditions were fulfilled, Dr. Beigel has met with many cases which did not yield to the treatment. Yet he feels justified in saying that the treatment just mentioned is—at least according to his experience—much more satisfactory than other remedies, and that the number of patients who have been cured or improved is, as far as Dr. Beigel is able to gather from statistic records, considerably larger than that obtained by any other method of treatment.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 33.—On *Pneumonia*.

By HUGHES BENNETT, M.D.

(*The Lancet*, May 1.)

Dr. Bennett, in a paper on “*Pneumonia*,” read at a meeting of the Medical Society of London on the 26th of April, commenced by condemning the existing mode of clinical and therapeutical observation of cases as insufficient, declaring that four things were necessary to a satisfactory observation; an accu-

rate diagnosis of the disease present, a thorough understanding of the pathological conditions, a careful marking of the progress of the cases under criticism, and fourthly, the preparation of a statistical chart embodying the treatment.

The author next stated that since the publication of his 129 cases of pneumonia, some years since, he had watched the progress of professional opinion, and the additional evidence that he had obtained, has only strengthened his views. He referred to the circumstance that his own cases included acute primary pneumonia, whereas other observers had not drawn a distinction between these and instances of secondary pneumonia. Dr. Bennett referred especially to some remarks of Dr. Sieveking, recently published, in which he sought to lay down, amongst others, the principle that pneumonia is different in type at different times; and he explained that varying degrees in strength, or various complications, might exist in cases; but this was no proof—though it might be taken as such—of change of type. Dr. Sieveking's facts were insufficient; and it would be well that Dr. Sieveking should base his observations on at least 100 properly recorded cases. Dr. Richardson's recent exposition of the value of bloodletting in disease was commented upon, Dr. Bennett objecting to the diagnosis of the ancients, which, being inaccurate, would introduce an element of uncertainty into the observation of the effect of remedies. The ancients, also, the author contended, believed that if symptoms were relieved, the disease was also relieved. There was indeed no confidence to be placed in these views and statements, from the fact that they did not understand the relationship of symptoms. Dr. Bennett claimed for the modern physician more than the power to arrest symptoms—to treat the disease on which the symptoms depended. In former times, when venesection was resorted to, 1 in 3 recovered, and the convalescence was regarded as evidence of successful treatment. Now, under the adoption of the "restorative plan," 1 in 27 or 30 only died, as shown by the details of large numbers of tabulated cases. He objected to that kind of medical writing in which plausibilities are supported by the narration of a few successful cases. Dr. Bennett concluded with the following axioms (briefly stated): That the great end of treatment was to remove the consolidation of the lung, and to restore the organ to its normal state. 2. All that diminishes the vital strength should be avoided. 3. There is no relation between the violence of the symptoms and the fatality of the disease, though the young are attacked most. 4. A weak pulse, or want of reaction, the non-disappearance of the solidification, flagging heart action, &c., were bad symptoms. 5. Low diet, too much or too early exercise, the use of purgatives, expectorants, and other lowering measures in convalescence, are bad. 6. In double pneumonia, with such special symptoms as severe dyspnoea, small bloodlettings might be used with advantage. 7. Local pain should be relieved by large poultices. 8. The true disease was hepatization; this was removed by the transformation of the solid material into pus, its liquefaction, its part absorption into the blood, and its evacuation through the excretory organs. 9. These events were favored by the restorative plan, and diuretics during the progress of disease. 10. The same pathological considerations and contingent treatment should be had regard to in all cases, complications being met by special means. Altogether, Dr. Bennett had observed in his own wards 153 cases; of these 129 were simple, and 24 complicated, cases (at least this is what we understood): of the 129 cases, all recovered; of the 24, five died. That is, out of the total, 1 in 30½ died; in simple cases the amount was *nil*.

ART. 34.—*Thermometric Observations on Pneumonia.*

By THOMAS WRIGLEY GRIMSHAW, A.B., M.D., Lecturer on Materia Medica in Stevens' Hospital.

(*Dublin Quarterly Journal of Medical Science*, May.)

The following are the conclusions at which Dr. Grimshaw has arrived:—

1st. Pneumonia has (when uncomplicated) a tolerably definite range of temperature.

2d. The highest temperature attained is usually between 103° and 104° Fahr.

3d. The maximum temperature is usually attained on the third, fourth, or fifth day, after which the temperature falls and reaches the normal on the sixth or seventh day.

4th. The height of the thermometer does not necessarily indicate the intensity of the disease.

5th. The fall of temperature does not indicate the cessation of mischief, but only that the disease is about to enter on the third stage.

6th. If a high temperature is maintained for a long time (more than three or four days), or a fresh rise takes place, it indicates a fresh attack in a previously healthy part, or the advent of a complication.

7th. The temperature and pulse usually, though not always, rise and fall together.

8th. The temperature usually decreases before the frequency of the respirations diminish.

9th. A high temperature before the 6th day in a doubtful case generally indicates it to be one of pneumonia and *not* of typhus.

ART. 35.—*Sulphur in the Treatment of Croup.*

(*The Lancet*, January 16.)

The use of the perchloride of iron and of the bromide of potassium has been much advocated of late in the treatment of croup and diphtheritic angina. The flour of sulphur, which had already been pointed out by different writers as an excellent remedy in similar cases, is now spoken of in most laudatory terms by a French writer, Dr. Feyreigne, of Toulouse, in whose hands it produced most wonderful effects. Dr. Feyreigne only records one case, but it was a peculiarly bad one. The patient, a little girl of four years, was in a dying condition, with intense diphtheritic angina, when the administration of the flour of sulphur brought her back to life. The dose employed was five grammes of sublimated sulphur to one glass of water; a teaspoonful of the mixture to be given every hour.

ART. 36.—*The Use of Chestnut-Leaves (*Castanea visca*) in Whooping Cough.*

By J. LUDLOW, M.D.

(*Cincinnati Lancet and Observer*, and *Medical Press and Circular*, May 12.)

More than two years ago this remedy was brought to Dr. Ludlow's notice by Dr. Unziker, he telling him that in his hands it had never failed to *cure*, not *relieve* the spasm, and bring the disease to a speedy end. Dr. Ludlow therefore determined to give it a fair trial whenever opportunity offered, and in every case that he has treated since, he has invariably used it, and with the happiest results. He has found in all cases that it would in from five to ten days relieve the spasm, and in about two weeks cure it; and the little sufferer would whoop no more, but go on to a speedy recovery, to the great delight of himself and its friends.

Dr. Ludlow makes an infusion of the leaves, by taking one-half of an ounce of them to the pint of boiling water, and afterwards adds a pint of cold water, to which is added sufficient of white sugar to make it palatable to the patient, and give of this *cold* as much as he can get the patient to take during the day and evening. Giving it to drink in place of cold water, the child soon gets to like it, and the author has no trouble in getting a sufficient quantity taken to produce the desired result. This remedy Dr. Ludlow believes of such importance, that he would urge it upon the attention of the profession at large.

ART. 37.—*Sulphuret of Potash in Whooping Cough.*

By Dr. MACKELCAN.

(Dominion Medical Journal, and New York Medical Journal, January.)

Dr. Mackelcan calls attention to this remedy. He was led to the use of it from a notice of it which he saw in a French medical journal forty years ago, and since that time his success has been so uniform that he has used no other remedy. He says:—

"The mode of administration I have adopted is to dissolve it in a mixture of syrup and distilled or rain water, in the proportion of one of the former to three parts of the latter (hard water, which sometimes contains sulphuric acid, partially decomposing it) the dose being one grain for each year up to four years of age, and after that half a grain additional for each year; the smaller doses being administered in a teaspoonful of fluid, and the larger more diluted, in proportion to the quantity of the salt in each dose.

"Its beneficial effects are not perceived for five days, when the intervals between the paroxysms of cough become longer, and after that their violence diminishes from day to day, until at the end of ten or fourteen days it is seldom necessary to pursue the treatment further.

"As the drug easily spoils by keeping, it is important to have it fresh. If it dissolves perfectly in the syrup and water, and the mixture is of a greenish color, it may be relied on; but if there is any sediment, it has been decomposed by exposure to air, and becomes a sulphate."

ART. 38.—*On the Treatment of Asthma by Belladonna.*

By HYDE SALTER, M.D., F.R.S., Fellow of the Royal College of Physicians, Senior Physician to Charing Cross Hospital.

(The Lancet, January 30.)

For the last two years Dr. Salter has used this drug extensively, and is so satisfied with the results that he thinks it worth while to publish a few of his cases, in illustration of its value and of his method of employing it.

The peculiar excellence of belladonna as a sedative in asthma consists in its power of diminishing reflex irritability—a power which it appears to Dr. Salter to possess in a greater degree, in proportion to its other seductive effects, than any other sedative.

Dr. Salter's method of giving it will be best seen in the following cases. He does not know that the tincture has any advantage over other preparations, only it happens to be that which he has tried. The liquor atropiæ might, from its uniformity of strength, be even preferable.

"CASE 1.—R. G., a lady, aged twenty-five, who has been liable to hay fever for eleven years and to asthma for seven, came to me on May 18th, 1868, for the cure of her hay asthma. She had been suffering for nearly a month, and had not had a single night's rest. She was not troubled with her asthma by the day, but only with her hay-fever symptoms. As soon, however, as she went to bed on came her asthma, and lasted regularly all night. She was worn out for want of rest, and felt fagged and miserable. I ordered ten minims of the tincture of belladonna three times a day, telling her to increase the quantity, day by day, till the characteristic effects of the drug were produced. She gradually raised the dose from the ten minims to twenty. She felt better the first night after taking it. She took it for nine days, and had no asthma whatever. She then, thinking herself cured, and feeling her head very uncomfortable, omitted it for one day, and the following night got no sleep from asthma. She then resumed it, and has had no asthma since. She now regularly takes twenty drops three times a day. Her head is slightly affected, and her eyes decidedly so—misty, and she cannot read; but there is not a trace of asthma. She has never found anything else prevent the attacks. The belladonna seems to have no influence whatever over the other hay-fever symptoms; the sneezing, running at the eyes, &c., go on as before.

"CASE 2.—Sarah P., aged forty-six, has had asthma ever since she was nineteen years of age—that is, for twenty-seven years. For the last five months she has been worse than ever, and for some time past has had asthma regularly every night. It begins between two and three o'clock, and after that she gets no rest. I ordered her to take the tincture of belladonna every night on going to bed—to begin at ten minims, and gradually to increase the dose until her head and sight became affected. She came to me on the 29th of last July. On the 14th of August I find the following entry in my note book: 'This patient came to me a fortnight ago yesterday. She has almost completely lost her symptoms ever since, having had uninterrupted good nights. She has gradually reached thirty drops of the tincture of belladonna, and now takes it every night. She looks wonderfully better, and is able to take long walks.' From that time I have not heard anything of her.

"CASE 8.—Col. R., aged forty has had asthma for sixteen years. For the last few years it has been gradually getting worse, and now he has it almost every night, commencing at from one to two o'clock A. M. He has tried various things without any success—Indian hemp, chlorodyne, ether, the inhalation of chloroform, dry cupping, coffee, iodide of potassium, abstinence, &c. I saw him on September 16th, and ordered him to try the belladonna at night in the usual way. On the 23d I find the following note: 'He has gradually got the belladonna up to forty minims without any appreciable inconvenience. The nights have been very good. The two last mornings there has been no oppression whatever, nor any sitting up in bed; he has slept right through the night. He walked this morning, directly after breakfast, from his house to the Blackheath to the station—a mile—in sixteen minutes, and the same pace up from Charing Cross station here.' I have not seen him since.

"CASE 4.—Wm. P., aged thirty-eight, has been asthmatic seventeen years. His attacks come on every morning on rising from bed, but often trouble him throughout the day as well. There is defective respiration at the right base, violent paroxysmal cough, and a good deal of expectoration. This patient came to me on Oct. 18th. A week after I made the following note: 'Since coming to me this patient has taken the belladonna every night—twenty, twenty-five, and then thirty drops, to which last dose he has struck. The result is that he is quite a different man. He has slept all through the night, dressed himself without any trouble or difficulty, and has walked half over London as quickly and well as ever in his life. When he arrived in town his breath was so bad that he had the greatest difficulty in getting from the Vauxhall station to the church near the bridge. He spits hardly anything. There is now a complete absence of all musical wheezing, and of any adventitious sound whatever; respiratory murmur quite re-established at right base, and indeed perfectly natural everywhere. And this change has taken place in one week.'"

For the following case, in which liquor atropiæ was used, Dr. Salter is indebted to his friend Mr. Hodson, of Bishop's Stortford.

"CASE 5.—'John L., aged fifty-five, by occupation a gardener, of active and temperate habits, suffered, from the summer of 1864, from frequent attacks of shortness of breath, followed by expectoration. When he first came under my observation (Sept. 2d) he presented the appearance of a confirmed asthmatic. The respiratory sounds, whenever I saw him, were always more or less characteristic of asthma. At night he generally became worse, so much so that he often found the greatest difficulty in getting up one flight of stairs to his bedroom. I gave him at first iodide of potassium (five-grain doses), then combined it with decoction of senega, afterwards with squills and compound tincture of camphor. He also took lobelia, &c., and burned nitre-paper. With the exception of the last, which always afforded some relief, the frequency and severity of the attacks were uninfluenced by the treatment; indeed he became so bad that his life was a burden to him. I was watching his distress one day, and deploring the inefficiency of treatment, and thinking how the constricted state of his bronchial tubes might be overcome, when the idea of trying a drug that so quickly dilated the pupil occurred to me, and I at once determined to bring him fully under the influence of atropia. He began, Oct. 26th, to take one-sixtieth of a grain in solution every six hours. A few doses produced marked relief, but I pushed the atropia until he took at each dose one-fortieth of a grain. He then became fully under its influence, with greatly impaired vision, entire absence of saliva, and most troublesome strangury. From this time the breathing improved, but he found it necessary to take the medicine two or three times a day up to the middle of the following February. In the spring I sent him for a few weeks for change of air, and upon his return he resumed his full work as a gentleman's

gardenér, which he has continued without interruption up to the present time (Dec. 1868). When he went away I gave him a supply of his atropia, in case an attack should come on, but he told me yesterday that he has never opened the bottle. During the last three years I have found atropia, in all cases of genuine asthma, quite as useful as in L.'s case, but I have never pushed it with any one else as I did with him."

Dr. Salter believes one reason why belladonna has not had a greater reputation as a remedy for asthma is that it has not been given in large enough doses. He thinks that, like lobelia, it must be given in doses sufficiently large to produce its physiological effects, otherwise we have no right to say that it has been fairly tried, or to conclude that it has been a failure if it has not achieved a cure. Dr. Salter thinks to give ten minims three times a day in some mixture is simply worthless.

The advantages of administering it in the way Dr. Salter has described are:—

1. That, giving it at night, you bring the full force of the drug to bear upon the disease at the time at which it is most liable to come on, and thus, if you are successful, tide you patient over the critical time.

2. By gradually feeling your way up to the required dose, you are able ultimately to reach without fear a dose which you would be unwilling to prescribe without such a tentative approach.

3. In those cases in which the therapeutical dose is reached before the physiological—that is, in which the asthma yields before the sight or head is appreciably affected—it enables you to stop short as soon as relief is obtained, and thus spare your patient any of the disagreeable effects of the drug.

4. By giving it only once in the twenty-four hours, you are able to give a larger dose than you would be able to do if oftener repeated.

5. By confining the dose to bedtime, the patient's days are, in spite of a large dose, passed in comfort; for, as the morning advances, the dulness of head, confusion of sight, and drought of mouth pass away.

6. You are thus enabled to find out what is the dose for the individual—a very important point. People differ very much in their tolerance of belladonna. Some of Dr. Salter's patients have been unable to take more than twenty minims once in the twenty-four hours without very unpleasant symptoms; while he has known others able to take a drachm three times in the same interval without any inconvenience. And as they differ in their tolerance of the drug, so do they differ in the dose at which their asthma will yield. The only way to ascertain what that dose is, is to make each case a separate experiment.

7. By giving the remedy three or four hours before the attack is likely to come on, the treatment becomes *prophylactic*. If by taking a dose every night for thirty nights the attacks have been for that time prevented, the patient has ceased to be an asthmatic for a month. This is a very different thing from having had thirty attacks in the same time which have been cut short by the remedy. In all "habitual" diseases, in which the recurrence keeps up the tendency, prophylactic treatment has, in relation to final cure, a pre-eminence it does not possess in diseases in which habit has no place. For such diseases it is the treatment. It does more than spare your patient an attack of his malady; it breaks, *pro tanto*, that chain of sequences which is the very life of the morbid tendency.

ART. 39.—*Hemorrhagic Phthisis.*

By HERMANN WEBER, M.D.

(*The Lancet*, May 1.)

On the 23d of April, the very important and interesting subject of the influence of hæmoptysis, as a cause of inflammatory processes, and of phthisis in particular, was brought under discussion at the Clinical Society of London. The question was introduced in an able paper by Dr. Hermann Weber, who referred also in detail to the question of the treatment of hæmoptysis. Dr. Weber, after referring to a communication lately made to the Society by Dr.

Bäumler, described three instances of hæmoptysis followed by inflammatory processes. The points of analogy in all of them were, that the subjects were men apparently in good health, but predisposed to epistaxis, and they offered no signs of pulmonary disease at the time when they were seized with hæmoptysis; that only several days after the occurrence of the latter, symptoms of bronchial irritation and lobular pneumonia, with pleuritis, manifested themselves, attended by a corresponding degree of fever. In two of these cases the disease terminated in gradual but perfect recovery; while in the third, during the apparent process of recovery, fresh attacks of hæmoptysis took place, again followed by fresh inflammatory changes, and later by another attack of hæmoptysis, leading to immediate death by suffocation. The post-mortem examination exhibited no tubercles, but caseous masses of different ages, surrounded by inflammatory infiltration, and dispersed over different parts of both lungs. The ages of the caseous nodules apparently correspond to the different dates of the attacks of hæmoptysis; the bronchi and air-cells were partly filled with fresh coagulated blood from the last fatal hemorrhage, but a large bronchus was filled by an old, partly discolored coagulum, softened in the centre, and resembling a venous thrombus; some of the old caseous nodules exhibited central softening, and the commencement of the formation of cavities. The author regarded this last case as an instance of a kind of galloping phthisis, caused by the retention of blood in the bronchi and air-cells, and by the changes effected as well in the effused blood as in the surrounding tissues. Dr. Weber considered the inflammatory changes in the two other cases, terminating in recovery, as essentially analogous, as, under unfavorable influences, they might have likewise led to phthisis. He pointed out that this had been the general view until Laennec and his successors had taught that hæmoptysis was almost always the consequence of already existing tubercular changes in the lungs. He thought it was impossible to interpret the cases on Laennec's view, and that much credit was due to Felix Niemeyer for re-establishing the old Hippocratic view. After having mentioned that in many instances hæmoptysis was not followed by any inflammatory changes, owing to the blood having been more or less completely expelled, he alluded to the irritating influence frequently exercised by the retention of other pathological substances (pus and similar morbid excretions) in the lungs. He then made some remarks on the treatment of hæmoptysis, regarding perfect rest as the most important element, and in many cases sufficient to check even severe hæmoptysis. Amongst the remedies not generally used he placed great value on ergotin in rather large doses, administered either by the stomach or by subcutaneous injections, and to the emetic effects of which he attributed the twofold advantage of arresting the hemorrhage and of clearing the bronchi. Dr. Weber further recommended a prolonged residence in elevated regions in cases characterized by a tendency to hæmoptysis, remarking that experience had amply shown its beneficial effects, and had disproved the views that a moderate decrease of atmospheric pressure favored the occurrence of hemorrhage from the mucous membranes.

Dr. Andrew Clark, in an admirable and really eloquent speech, approved of the contents of the paper, and stated that it was high time to modify the still prevalent views on phthisis and tuberculosis. He would designate the cases mentioned as instances of "hemorrhagic phthisis," other forms as "pneumonia," and others as "fibrous phthisis," according to the nature of the pathological processes. He mentioned in his remarks that the blood retained in the lungs would also, without leading to any inflammatory processes in the neighborhood, by changes connected with its own disintegration, lead to the formation of cavities and phthisis.

Dr. Douglas Powell alluded to a fatal case recently examined by him, in corroboration of the view that blood retained in the lungs after an attack of hæmoptysis could be the source of inflammatory processes in the surrounding tissue; and remarked that the changes in the cases observed by him had occurred principally in the lower lobes.

Dr. Buzzard wished to know in what manner the watery extract of secalæ had been employed hypodermically in cases of hæmoptysis.

Dr. Hermann Weber, in replying, seemed to doubt that the mere disintegra-

tion of clots of blood retained in the lungs could lead to the formation of cavities without causing inflammatory changes in the neighborhood. With regard to the doses of the extract of ergot, he stated that he was in the habit of giving from twenty to thirty grains of the liquid extract of the *Pharmacopœia* every two or three hours, and that for hypodermic injections two or three grains of the watery extract had been used dissolved in equal parts of glycerine and spirit. He availed himself of the opportunity to direct attention to an important communication by Professor von Langenbeck, at Berlin, on the treatment of aneurisms by hypodermic injections of ergotin.

ART. 40.—*On the Treatment of Phthisis by Prolonged Residence in Elevated Regions.*¹

By HERMANN WEBER, M.D., F.R.C.P., Physician to the German Hospital.

(*The Lancet*, May 22.)

Dr. Weber premises that he uses the term "phthisis" to signify not only "tubercular phthisis," but all the different subacute and chronic inflammatory processes of the lungs usually leading to consumption, especially catarrhal pneumonia and its products; regarding, with Thomas Addison, "inflammation as the great instrument of destruction in every form of phthisis," and sharing, with some modification, the view of Buhl and other authors, that true tuberculosis is not a primary, but a secondary disease—the result not necessarily of preceding inflammation, and especially of the cheesy transformation of the products of inflammation.

He understands by "elevated regions," those localities where phthisis, owing principally to their elevation, does either not; or only rarely, occur amongst its inhabitants; and points out that the elevation necessary for producing a certain degree of immunity is not an absolute one, but varies in different latitudes, and seems to decrease with the removal from the equator towards the poles. He, however, does not believe that there is any fixed elevation of immunity for every degree of latitude; and is further not of opinion that the elevation in itself is the sole cause of the immunity, but that it is materially assisted or counteracted by other climatic elements, as the situation of a place on table-land, or on the top or on the slope of a hill, or at the top of a valley; the aspect to the north or south; the configuration of the surrounding ground; the nearness of standing waters or marshy districts, and the elevation of the place above them; the habitual degree of clearness or mistiness of the atmosphere, its purity, or the degree of admixture of foreign elements, mechanical and organic; the geological structure of the soil, and all the circumstances influencing its degree of dampness or dryness, regarding which subject he specially points to the important results of Bowditch and Buchanan's researches.

The author then expresses his astonishment that in spite of the works of Archibald Smith, Mühry, Hirsch, Jourdanet, and others, there is still amongst medical men a great disinclination to sending consumptive patients to high elevations; and he endeavors to prove that the usual objections are entirely unfounded—that cold is not injurious to delicate persons threatened with consumption, but, on the contrary, often beneficial; that it is not correct that in Alpine health resorts the great cold of the winter altogether prevents invalids being in the open air; that hæmoptysis is not more frequent, but more rare, in moderately high situations; that the principal morbid processes leading to consumption are counteracted; and that the tendency to acute affections (catarrhal and inflammatory) in consumptive conditions is likewise diminished.

Dr. Weber then gives a description of seventeen cases treated by prolonged residence on high-level health resorts, these being not selected, but all the cases which at one time or other came under his own observation, and of which he knows the final result. He refers to fourteen other patients, who are still

¹ Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, May 11.

residing in elevated regions, and regarding whom the final result is as yet unknown. He has, however, reason to think, from written reports, that the progress of these fourteen cases is favorable. The treatment adopted during the stay on high elevations was in most cases only dietetic and hygienic, except during intercurrent acute affections.

The effect of the high-level plan may be described as decidedly satisfactory in fifteen out of seventeen cases, undecided in one, and unsatisfactory in another. None of the patients have died in high elevations. Two, in early stages of subacute phthisis, had been, as shown by the post-mortem examination, quite cured by a prolonged stay in their native mountains, but were some years later, after their return into unhealthy localities and occupations, seized with fresh attacks, rapidly leading to death. Two other patients had been, to all appearances, likewise cured by residence in high regions, but were later, while living in low regions, again attacked by fresh pneumonic affections, with fatal termination. The remaining eleven cases may be regarded, up to this time at least, as cured; most of them had likewise fresh attacks or relapses, sooner or later, after having again settled in low elevations; but a second and third more prolonged stay on high ground led, as far as can be judged, to final cure, provided the long exposure to unfavorable influences be avoided. Some of these patients had previously spent one or several winters in warmer, low-level health resorts (Egypt, Algiers, the Riviera), without having derived the same amount of benefit as they did on high ground, where they were more free from catarrhal and other intercurrent acute affections. Some had one or several attacks of hæmoptysis while in low elevations, but none while on high ground. Of all the thirty-one cases, including the fourteen still under treatment, only one had an attack of hæmoptysis while on high altitudes.

The author does not regard it prudent to enter on a theory of the *modus operandi*. The agents are too numerous, and the physiological and chemical researches as to their influence on man and animals are insufficient. Thus with regard to the rarefaction of the air, he alludes to three or four possibilities:—1. That in order to inhale the same quantity of oxygen as in low elevations, the mechanical respiratory action must be increased. 2. That, without this increase, the quantity of oxygen inhaled is diminished, and that thus oxidation may be retarded. 3. That, in spite of the diminution in the quantity of oxygen inhaled, the oxidation may remain the same, or become even increased, by a greater "mobility of atoms," according to Drs. Frankland and Tyndall's experiments on combustion. Or 4. That a larger amount of ozone in the air of high elevations increases its oxidizing power.

Dr. Weber is inclined to attribute special importance to the dryness of the soil and air, to the presence of a large amount of ozone, and especially to the freeness of the air from foreign admixtures, mechanical, chemical, and organic, alluding to Pasteur's experiments on the air of different elevations. The fact that most consumptive invalids in the Swiss health resorts feel better during winter than during summer, is likewise noticed, and the probable explanation is sought for in the greater intensity of the beneficial influences just mentioned during winter—viz., dryness of soil and air, large amount of ozone, comparative absence of foreign admixtures in the air. The author mentions that some of the influences at work in the high-level health resorts exist also in some of the low-level, especially maritime, health resorts; and he does not wish to disparage the latter, which have their own advantages, and only requests the Fellows of the Society to give an impartial trial to the elevated health resorts in proper cases, and points to the probability of the great advantage which would arise to the consumptive soldiers of the Indian army, if they were to be sent for a sufficient length of time to the high regions of the Himalayas, instead of being invalidated and sent home.

He then shortly refers to the localities suitable for treatment of cases of incipient phthisis on high ground on the Cordilleras, in Switzerland, and in Germany, the number of which would soon be multiplied and provided with the necessary comforts, if the plan advocated were more frequently adopted.

The following points are summed up for consideration:—

1. That the elevated regions deserve greater attention in the management of consumptive tendencies and affections than they have hitherto received.

2. That they deserve this attention not only as summer, but even more so as winter, health resorts.

3. That without under-rating the value of maritime and other low-level health resorts, the elevated localities offer great advantages in cases of early consumption and tendency to consumption, in the disposition to catarrhal pneumonia, and the results of this disease, particularly the so-called tubercular (cheesy) deposits, and tubercular (pneumonic) infiltrations.

4. That in such cases the occurrence of fresh catarrhal and other acute intercurrent affections appears to be less frequent in high-level than in low-level health resorts.

5. That the tendency to absorption and fibrous transformation or cicatrization of deposits is promoted, and the tendency to the breaking down of tissues and formation of cavities is counteracted in elevated health resorts.

6. That the tendency to hæmoptysis is diminished, and not, as usually stated, increased, in elevated localities.

Dr. Weber concludes his paper with a tribute of gratitude to the late Dr. Archibald Smith, to whom he is indebted for much valuable information on medical climatology, especially with regard to elevated regions.

Dr. Symes Thompson said that the author had referred to various elevated health resorts, especially in Mexico and in Peru. He believed there were others in South Africa that were even more eligible. In the colony of Natal, the Drakenberg range attains a height of 10,000 feet, and is crowned by table-land, on which there is free movement of air. The climate is dry, the sun brilliant, and the heat not excessive. He was acquainted with the cases of two phthisical patients who had gone to the Orange Free State, and in whom the results had been very satisfactory. He thought it would be hardly possible to determine, in any locality, the height at which phthisis did not exist; and he believed that the limit would have reference to the isothermal lines, as well as to the elevation. With reference to temperature, he rather feared the effect of extreme cold, and leaned towards a trial of elevated positions in the tropics. The long voyage to the Cape would often be extremely beneficial.

Dr. C. J. B. Williams expressed his sense of obligation to the author. He believed that the notion that cold was injurious to delicate people had taken deep root in the minds alike of the public and of the profession, and would not easily be removed. Our daily experience was that cold is hurtful, and moderate warmth useful. Statistics not at present in existence were needed for the determination of the question that had been raised. It would be necessary also to make a marked distinction between prevention and cure, between phthisis *in case* and phthisis *in posse*. Although phthisis may not prevail in elevated regions, that does not prove that removal to them will cure the disease. Phthisical patients shrink from cold instinctively; and although to enforce out-door exercise is one of our best hygienic rules, the difficulty of enforcing it is that the phthisical feel that cold hurts them. He believed that great benefit might accrue in the way of prevention, but that in developed disease there would be much risk. Cold might easily be so applied as to derange the circulation, and to increase inflammatory action. In summer great benefit was often obtained by removal to a cooler region; but many patients went to Florida, or came to this country, from Canada, in order to avoid the rigor of the winter. The speaker concluded a lengthy address by a humorous description of the discomforts that might attend upon a winter residence in some of the places suggested.

Dr. Wilks observed that the chief question was whether the benefit might not be due to diminished barometric pressure, and, if so, he considered the fact to be of immense importance. At present the profession knew nothing about the comparative effects of exertion or of quiescence of the lungs in retarding or accelerating phthisis. At present all our systems are founded on giving more oxygen. One man tells a patient to expand his lungs; a second to keep them quiet; a third, to expand them in moderation. He had come to the conclusion, long ago suggested by Dr. Barlow, that disease was developed in proportion to the activity of the organ, and was arrested by keeping the lung quiet. If in an elevated position, where the barometric pressure was diminished, the patient used his lungs only half as much, and thence derived benefit, the fact would be the most important one in our knowledge, and would be worth all our remedies.

ART. 41.—*The Hypophosphites in Consumption.*

By J. B. CHURCHILL, M.D.

(Medical Times and Gazette, December 5, 1868.)

The following is Dr. Churchill's reply to Dr. Cotton's paper on the hypophosphites which appeared in the last volume of the "Half-Yearly Abstract."

"Dr. Cotton's paper on the hypophosphites in the *Medical Times and Gazette* of Saturday, Nov. 14th, is a repetition of the line of argument published in the *Lancet* four years ago,¹ and completely demolished by me in 1864.² There is, however, one marked difference between his last experiments and his former ones. In 1863 Dr. Cotton had used my own hypophosphites as supplied by Mr. Swann, and the number of cases which improved was eight out of twelve, four of which, as I have shown, were cured. In the present instance the hypophosphites were supplied by the Brompton Hospital, and the proportion of cases benefited was only four out of twelve—that is, half the proportion obtained in 1863. Dr. Cotton argues now, as in 1863, that if a patient who was improved while taking the hypophosphites still continues to do so for a short time after they were omitted and carbonate of soda used instead, the continuation of the improvement is due to the carbonate—that this latter is as effective as the hypophosphite—and that, in fact, both were of no use.

"Why does not Dr. Cotton try carbonate of soda first and alone, and then compare the effect produced with that of the hypophosphites?"

"Of course, in a comparison of this kind, the final result only is to be taken account of. True it is that the discoverer of the medical action of the hypophosphites has been at great pains and labor to show that the extent of organs involved, the stage of the disease, the many and varied complications attending its progress, the type of the attack, the possible existence of inflammatory adjuncts, together with the conditions of hereditariness, constitution, temperament, sex, age, and many others, involve a practical consequence of the highest value as to the mode, form, dose, and time of administering the remedies, while at the same time they lead to positive and almost mathematical data for the prognosis of each individual case.

"But Dr. Cotton does not descend to such minutiae. Still, they will have to be taken into account. His statements are in direct opposition to those of many eminent members of the profession, amongst whom, to cite only a few of those at home, I would mention Drs. C. J. B. Williams and C. J. Williams (the latter one of the physicians of the Brompton Hospital, whose able paper on the nature and treatment of pulmonary consumption I have perused with much interest), and Dr. Thorowgood, physician to the City of London Hospital for Consumption. Independently of these individual testimonies, I commend to the timely meditation of my adversaries the following facts:—

"*Fact 1.*—Up to the year 1857 the hypophosphites were of no practical use, were known merely to a few chemists as samples in the laboratory, and to the medical profession were not known even by name.

"*Fact 2.*—In that same year they were brought before the world by me, as the specific remedy for consumption.

"*Fact 3.*—Their use has spread over the whole civilized world—from Russia to Australia, and from India to Peru.

"*Fact 4.*—These salts, which were unknown ten years ago, are now in such general use that at the Paris Universal Exhibition last year they were to be seen in the show-cases of one-half of the exhibitors in the chemical department.

"*Fact 5.*—The last report of the Registrar-General shows that in England there has been a marked decrease in the number of deaths from consumption within the last ten years.

¹ *Lancet*, April 25 and May 2, 1865.

² In my book, "De la Cause immédiate de la Phthisie Pulmonaire et des Maladies Tuberculeuses," p. 933. Paris. 1864.

"It may be that even from Brompton a new voice may come, like that of a skilful and honest Belgian physician, saying: 'Seven years ago I stated' that I had used Dr. Churchill's hypophosphite of soda without succeeding in a single case. Truth compels me to declare that I now prescribe the hypophosphites in my daily practice. I have observed several cases of complete recovery, and acknowledge that the hypophosphites undoubtedly possesses the power of curing consumption.'"¹

ART. 42.—*Inhalation of an Aqueous Solution of Carbolic Acid under the Form of Spray for the Treatment of Phthisis.*

By WILLIAM MARCET, M.D.

(*The Practitioner*, November, 1868.)

Dr. Marcet states, that considering the phenomena of chemical decomposition which must take place in the diseased portions of the pulmonary tissue in phthisis, owing to their low state of vitality, it occurred to him that if an antiseptic agent could be introduced into the lungs without interfering with the general functions of the body, the progress of the disease might be arrested or its mortality diminished. He therefore decided to try carbolic acid in the *form of spray*, as that most likely to cause the antiseptic agent to remain in contact with the diseased parts for some little time before its absorption in the blood.

Dr. Marcet relates seven cases treated by this method, and sums up the results of his experiments as follows:—

"1st. When a solution of from half a grain to one and a half grains of crystallized carbolic acid in one ounce of water is inhaled in the form of spray by a patient in the chronic first stage of phthisis before softening has taken place, and perhaps also when the process of softening is just commencing, or at the very outset of the second stage, relief is thereby obtained, and in some cases it appears to assist, with other means, in arresting the disease. After using the spray, the patients feel as if their breathing becomes easier and deeper; on moving about and going up stairs there is less dyspnoea; the stitch often felt, or the sudden check to the expansion of the chest in the act of breathing, is partly or entirely removed, cough is frequently relieved, and the expectoration may be considerably diminished. The absorption of any fluid in the smaller bronchi and pulmonary vesicles appears to be favored, as shown by a lessening of the crepitation. I cannot confidently assert that I have known any plastic materials in the lungs to be absorbed while the spray was being used, still I believe that in some of my cases the dulness on percussion has diminished and even disappeared, partly from the effects of the carbolic acid spray. The treatment with the spray should not be adopted exclusively, but in addition to the use of counter-irritation, cod-liver oil, &c.

"2d. In cases of acute second and third stages of phthisis, when the process of softening is going on rapidly, accompanied with a quick pulse, high temperature, debility, and emaciation, the inhalation of the carbolic acid spray, although it may afford temporary relief, appears objectionable, from its depressing influence over the action of the heart. I should also think it advisable to withhold the use of the spray in the first acute stage.

"3d. A solution of carbolic acid, containing more than two grains to the ounce, should as a rule not be used, from its depressing action on the cardiac pulsations.

"From the above it will be seen that the spray should be employed with great caution; and if giddiness, faintness, trembling, with a permanently weakened pulse, or an increased irritation in the lungs, should result from the treatment, it ought to be at once discontinued.

"I am in the habit of using the spray as obtained from Clarke's Hand-ball

¹ *Journal de Médecine de Bruxelles.*

² Dr. Holsbeck, "*Le Scalpel*," December, 1865.

Spray Producer; sometimes I have adopted Mathieu's Spray Producer, in which the liquid is projected against the inside of a tube and thus atomized. I have tried and given up the steam spray-producing apparatus on account of the difficulty of regulating its action. It appears to me sufficient to inhale the spray once a day, or once every two days, for a quarter of an hour or twenty minutes."

(C) CONCERNING THE CIRCULATORY SYSTEM.

ART. 43.—*Atrophy of the Heart.*

By N. FINN, M.D.

(*Centralblatt f. d. Medicinisch. Wissenschaften*, August, 1868; and *American Journal of the Medical Sciences*, January.)

The following general results are presented by Dr. N. Finn, of the Pathologico-Anatom. Institute of St. Petersburg, as having been derived from the examination of one hundred hearts.

1. Simple atrophy is never developed as the only morbid condition. It is unattended by a morbid condition of the cardiac bloodvessels.

2. Neither the absolute or relative weight of the heart, thickness of its walls, nor their reduced circumference can be received as a certain indication of the presence of atrophy of the organ.

3. The brown atrophy of the heart, so called from a morbid change, in the coloring matter of the muscular tissue, is a common accompaniment of all diseases attended with great emaciation.

4. Fatty degeneration of the heart (fatty infiltration) occurs chiefly in persons who have a large development of the subcutaneous adipose tissue; the infiltration is often to such an extent as to prove troublesome.

5. Fatty degeneration of the heart occurs as an acute or a chronic affection. It is observed more frequently on the right than on the left side of the organ. In some cases the entire substance of the walls of the ventricle is affected, in others only a portion. In the chronic form there is always atheromatous degeneration of the cardiac bloodvessels. The *arcus senilis* is never met with in cases of fatty degeneration of the heart.

ART. 44.—*Diagnosis of Polypi of the Heart.*

By BENJAMIN W. RICHARDSON M.D., F.R.S.

(*Medical Times and Gazette*, November 21, 1868.)

Dr. B. W. Richardson gives a series of rules for the diagnosis of the occurrence of fibrinous deposits in the heart.

The symptoms are those of hemorrhage without visible loss of blood. They are falling temperature; pallid or livid surface; feeble, irregular, or fluttering pulse; muscular prostration, and gasping respiration. These symptoms may depend on nervous lesion, hemorrhage, flux, exudation, accumulation of fluid in the pericardium, or obstruction of respiration, so that it is necessary that all these be excluded. Dr. Richardson then proceeds to enumerate the physical evidences of the separation of fibrin:—

"The first of these is a peculiar dyspnoea. I allude now specially to cases in which the obstruction is on the right side. The dyspnoea is most distressing; it admits of no relief. If you ask where is the oppression, the finger is invariably pointed to the heart; if the patient can speak and explain his symptoms, he will describe that he has no difficulty in drawing in breath—that he has no pain, in the ordinary sense of the term, but yet he feels that he is sinking from inability to breathe. This dyspnoea lasts to the end, and there is often intense working of the alae of the nose. The explanation of the dyspnoea is that the blood has been cut off from the air, so that, whatever efforts are made to

breathe, there is no efficient result. I have already said in the young obvious signs of emphysema attend the condition.

"There is dyspnoea, again, when the obstruction caused by fibrin is on the left side; but though severe in character, it is not of the same type as is described above. It is congestive rather in nature, and is referred by the sufferer to the chest generally, not specially to the heart.

"From the dyspnoea I turn next to the heart itself. I was at one time of opinion that few, if any, special physical signs of separation of fibrin exist as reliable signs. A larger experience has, to a considerable extent, modified and corrected that opinion, and indeed, during the last five years, I have detected not only fibrin within the heart, but the actual position of the mass in regard to the cavities, with extreme precision. The points I keep in mind are as follows: If, with all the conditions likely to lead to separation, I find the action of the heart feeble and irregular, I make a careful examination with the stethoscope for two sounds of the heart on the right and on the left sides of the organ. Whatever theory we may adopt as to the cause of the heart's sounds one thing is certain—that in health the tricuspid and mitral valves act together that the pulmonary and aortic valves act together, and that the first and second sounds respectively are coincident with the simultaneous action of those valves which move together at the same time. When, therefore, in any given case, the action of the valves on one side of the heart is impeded—when, for example, a mass of separated fibrin interferes with the valvular movements—then the sounds produced by the valves on the impeded side will be reduced or even lost altogether. It is possible to detect this. In a case I saw with Mr. Spencer Wells, where fibrin was being laid down on the right side of the heart, this line of diagnosis was so easy that he expressed to me it had only to be practised once to be recognized ever afterwards. Suppose, then, that the separation is on the right side of the heart, there will be feeble or deficient first and second sounds over the line of the right side of the organ—that is to say, in the line of the heart by the sternum. Turning, however, to the left side, both sounds of the heart will be heard.

"Supposing the separation of fibrin to be on the left side, these physical signs will be simply reversed—that is to say, the sounds of the organ will be faint or inaudible on the left, audible and distinct on the right side.

"One other distinctive point is worthy of attention. When the heart is blocked up with fibrin on the right side, its impulse is reduced, and its action is feeble throughout. When, on the other hand, the organ is blocked up on the left side, the action as a rule is for a long time irregular, tumultuous, struggling.

"In some rare cases there is separation of fibrin on both sides of the heart, in which the prominent symptoms are those of obstruction in the right cavities."

ART. 45.—*On a Case of Hemorrhagic Pericarditis treated by Double Puncture of the Pericardium.*¹

By M. HENRI ROGER.

(*Gazette Hebdomadaire*, No. 50, 1868.)

Eug. Dance, a little girl, aged eleven years, was admitted into the Children's Hospital on October 21. The child was very intelligent, and until the last year had always been in excellent health. Though the child of a rheumatic father, she had never suffered from articular pains or been affected with chorea; she had never complained of palpitations or of dyspnoea. When at school she shared in the games of her companions, and her mother had never observed any loss of breath or cyanosis, even after violent exertion. About a year before her admission the little girl commenced to complain of stitching pains in the side; she was frequently subject to dyspnoea; palpitations of the heart came

¹ Communicated to the Société Médicale des Hôpitaux, Nov. 13, 1868.

on with changes of position and during walking. The general health was good, sleep natural, and the appetite preserved.

At the commencement of August the palpitations, the dyspnoea, and the pains in the side increased, and became associated with articular pains in the knees, and shoulders. On August 14, the young patient had fever, nocturnal agitation, very great dyspnoea, and occasional attacks of suffocation. The practitioner in attendance recognized pericarditis, and treated the disease with pericardial blisters and frictions of cod-liver oil, and by administering ether internally. At the commencement of September, the child was affected with cough, and the face became swollen. At the end of the third week the patient was able to leave her bed for three or four hours in the day. This condition of things remained the same up to the middle of October: the child remained in bed during most part of the day, and was affected with cough, dyspnoea, and fever. On October 20 the fever was stronger, and it was then remarked that the left lower limb had become cedematous. On the following day the child was brought to the hospital.

The following was the condition of the patient on the day of admission: she was sitting up in her bed and supported by pillows; dyspnoea, deep and painful inspirations; the thorax raised by a general movement which affected even the head and neck; a cyanic tint in the eyelids, the eyes sunken, the globes injected, the lips of a violet color, the expression of face resembling that presented in attacks of cardiac asthma; obstruction both in the peripheric and in the deep circulation; pulse small and hard (156 to 172 pulsations), regular; temperature moderate; hands cool; cough frequent.

On examination of the chest a very extensive and very marked fulness was found in the pericardial region. Along the extent of this fulness there was complete dulness from the first intercostal space as far as the seventh rib; transversely this dulness passed on the right side, about one finger's breadth beyond the right edge of the sternum, and on the left reached a line carried vertically from the anterior border of the armpit. The cardiac beatings could not be felt; they were dull and far removed from the ear, but without other abnormal characters. No rubbing sound. In the thorax, signs were made out of a slight pleural effusion, and of some congestion of the lung on the right side, whilst on the left side the respiration was normal.

In the left lower limb there was cedema, with heat and pains excited by contact and movement; there was also tenderness along the course of the veins of this limb. The opposite limb was scarcely swollen. Nothing abnormal in the urine.

All the observed signs belonged indubitably to a *considerable effusion into the pericardium*. But the nature of the fluid, the cause of the effusion, and the pathological connections between it and the symptoms observed on the side of the pulmonary and the peripheral circulation, were questions which could not be elucidated. There was, however, urgent necessity for the performance of paracentesis of the pericardium, an operation which had never been attempted on infants, and which M. Roger had previously rejected more than once, in spite of the indications which he had met with, and very probably to the great detriment of the little patients.

On the following morning, Oct. 23d, the operation was performed in the following manner: The instrument used was a hydrocele trocar, furnished with a membranous valve; this, after a careful examination for the purpose of making sure the diagnosis, was thrust into the chest through the fifth intercostal space, at a point about one centimetre and a half from the left border of the sternum. The patient was placed on her left side, and in a half-sitting position on her bed. M. Roger, who stood on the left side of the girl, carried the instrument from below upwards, and from left to right, that is to say, towards the sternum. The trocar penetrated without difficulty, and without giving great pain to the child, for about a centimetre in depth, and it was then rendered manifest that the pointed extremity of the trocar could be manœuvred in a cavity full of fluid. The puncturing instrument was withdrawn. M. Roger was then much moved when he found flowing away, not serosity or pus, as was expected, but pure blood. As he had never before met with a case of hemorrhagic pericarditis, the supposition that this affection existed here did not occur to him at first, and

it was thought that the mammary vessels or the wall of the heart had been wounded. He was, however, soon reassured after finding that the canula was in a cavity full of fluid, that a stylet passed through this could be pushed on for some distance without meeting with resistance, that the blood flowed slowly and regularly, and finally that there was no threatening of syncope, and that the child was sensibly relieved. The quantity of blood which flowed away did not exceed 100 grammes, and notwithstanding the various manœuvres, no more than this could be obtained. The trocar was withdrawn, and a piece of diachylon applied over the puncture. Wine and nutriment were then given to the patient.

The operation was followed by very marked relief; the respiration was reduced in frequency and became less troublesome, and the physiognomy of the patient was less anxious. The precordial dulness and also the prominence was apparently diminished to a slight extent. In the afternoon the patient was calm; the pulse remained small and very frequent, 150; the dyspnoea was less intense in spite of the persistence of the pleural effusion and the congestion of the right lung. Finally, the beats of the heart were less than before the operation.

On the following day, the 24th, the improvement continued, but it was of short duration. On the 25th and 26th the return of the pericardial effusion was announced by physical signs. The respirations were 60, and the pulse 160, in the minute. The œdema of the leg and thigh became more painful, and a hard cord was felt, indicating obliteration of the principal veins of the limb.

On the 28th, five days after the operation, the phenomena had returned to their *sumum* of intensity. The functional disturbances were very great, and the circulation had become more and more impeded. The swelling was considerable, and the dulness had increased in every direction, and now measured seventeen centimetres from above downwards, and twenty-one centimetres at least from side to side. Later in the day, M. Roger found the poor girl in so serious a condition that he decided upon attempting a second puncture in order to ward off pressing danger. The same trocar was then pushed into the chest one centimetre without the seat of the first puncture, in the same intercostal space. When the trocar had been withdrawn, nothing flowed away through the canula. Still it could be distinctly felt that the instrument was in a cavity. A stylet introduced along some depth came against no obstacle; the canula was moved in all directions, but in vain; not a drop of fluid appeared at its orifice. At this time, during a forcible inspiration, some air was drawn in through the canula and penetrated into the pericardium without causing any immediate or ulterior accident. M. Roger then gently withdrew the canula, and a few drops of reddish serosity afterwards escaped from the wound.

The trocar was at once re-introduced and carried directly backwards, and at this time there was a full stream of sanguinolent, brownish and slightly fibrinous serosity. 500 grammes of this fluid were withdrawn. There was immediate relief.

The general venous congestion was diminished, and the cyanosis less marked; the face lost its puffiness, and the dyspnoea was less. The external swelling was reduced in a surprising manner, and the dulness was replaced in the sub-clavicular region by a clearer sound. The child, whose face was no longer expressive of anguish, was able to lie upon her back and upon the right side, positions which had previously been impossible.

On subsequent days, the improvement persisted and influenced all parts at once. The respiration fell to 44, and the pulse to 150 and to 132. On the 3d and 4th of November the improvement was still more evident, and sleep, appetite, and good spirits were restored. On the 10th the state of patient was more and more satisfactory: pulse 120, respiration 40. There was no longer any prominence in the precordial region; the beats of the heart commenced to be felt on palpation; the systolic impulse, though feeble, was even visible to a slight extent. The child was able to take a few steps in the ward. In short, the patient could be regarded as *almost cured* of the considerable intrapericardial effusion which had directly threatened her existence.

Unfortunately, while the central circulation was restored to its freedom by the evacuation of the fluid compressing the heart, and while several of the morbid phenomena more or less directly associated with the effusion were diminished in intensity or had disappeared, the lesions of the pulmonary apparatus persisted with good and bad alternations which gave indications of the variations of the febrile condition, and of the persistence, although to lesser degree, of the dyspnoea and cyanosis.

On November 13th, twenty-one days after the first puncture, and six days after the second, M. Roger found that there was still an absence of great effusion within the pericardium, and at the same time a presence of persistent pleural, pulmonary, and hepatic lesions upon which alone the remaining functional disorders were dependent.

The improvement in the condition of the patient was maintained until the 22d of November, when there was every hope of a complete cure. On the following day, however, the pericardial effusion returned; the pulmonary lesions actively progressed, and, in addition, rheumatic pains attacked the neck and both elbows. The patient fell into a state of intense somnolence and of *subdelirium*, and on November 28th succumbed without convulsion after a slow agony.

ART. 46.—*Effects of Rowing upon the Circulation.*

By T. R. FRASER, M.D.

(*Quarterly Journal of Science*, January.)

Dr. Fraser, of Edinburgh, has been carefully examining the effects of rowing on the pulse by means of the sphygmograph. Dr. Fraser had the opportunity of recording the "sphygmograms" of a crew of healthy men on several occasions before leaving the boat-house, and immediately after return. The tracings show clearly that an extremely large quantity of blood is being circulated with great rapidity—a condition of the circulation which would be considered essential on other grounds for the continuance of prolonged and severe muscular exertion. It is obvious that in the great majority of functional and organic diseases of the vascular system such a condition could not possibly be maintained. The subjects of these diseases are therefore completely incapacitated from *violent* rowing exercise, and cannot be in a position to be injured by it. It is possible that the presence of incipient forms of disease of the vascular system may not altogether prevent such exercise from being undertaken; but Dr. Fraser believes that all such diseases may be detected by the use of the sphygmograph in time to prevent further mischief, the examination being made immediately before the boat is entered, and a few minutes after a moderate pull has been indulged in. The effects produced by rowing on the circulation do not differ from those of many other forms of muscular exercise.

ART. 47.—*On the Development of Cardiac Diseases in consequence of Bodily Exertions.*

By DR. THURN.

(*Wiener Medicinische Wochenschrift*, 1868; *Schmidt's Jahrbücher*, No. 2, 1869.)

Dr. Thurn directs attention to the frequency of the occurrence of cardiac diseases, especially hypertrophy, after muscular exertions. In consequence of severe exercise there is brought on in the first place fatigue of the muscular tissue of the heart, which occurs the more rapidly as the nutrition of the whole body is less suitable and less adequate, and as the muscular tissue of the organ is less readily excited by the nervous centres. In addition, the heart, especially the left ventricle, is not capable of offering due resistance to the increase in the pressure of blood caused by long continued activity; then follows dilata-

tion of the left ventricle and subsequently hypertrophy. These processes were closely observed in a small number of soldiers examined by Dr. Thurn. Some individuals who at first were perfectly healthy presented after longer or shorter terms of service a considerable degree of hypertrophy of the left ventricle.

The gradual change is associated with the following symptoms: some soldiers complained at the first period of their drill, which took place in the summer, of palpitations and difficulty of breathing. Later, after a forced march or some other severe exertion, came on attacks characterized by mists before the eyes, whizzing noises in the ears, and weakness of the limbs. There was also a sensation of fulness in the chest, the temperature was considerably elevated, the heart's beats diffused, the tone obscure, and the pulse frequent, small, and soft. There were frequently fits of constant gaping. These attacks came to an end in the course of from five to fifteen minutes, but the heart's action remained excessive for hours and even days after. At times the symptoms were more severe. There was great dyspnoea, the features were expressive of great anguish; the skin was pale; the heart's beats weak and often irregular; and the pulse small, thready, and rapid. Soldiers who had frequently suffered from attacks of this kind, were finally affected with hypertrophy of the left ventricle.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 48.—*Sea-Sickness Prevented or Cured by the Spinal Ice-bag.*

By JOHN CHAPMAN, M.D., M.R.C.P., Physician to the Farringdon Dispensary.

In his work on *Sea-sickness*, Dr. Chapman states that, "the doctrine of the excito-motor or reflex functions of the spinal cord is a guide to the whole physiology of sickness," and that, "following it," he "was led to predict how to prevent, arrest, or control not only sea-sickness, but also how no remedy or palliate every kind of sickness, whatever may be its *primary* cause."

"I hold," he adds, "that the *proximate* cause of sea-sickness consists in an undue amount of blood in the nervous centres, along the back, and especially in those segments of the spinal cord related to the stomach and the muscles concerned in vomiting. This condition is induced by the movement of the vessel, in, I believe three ways: 1st, through the brain; 2d, through the ligaments of the spinal cord; 3d, through the abdominal and pelvic viscera.

"If by one or several cases the amount of blood circulating in the spinal cord be increased considerably beyond the normal amount, all the nerves emanating from it partake of the increased activity of the cord itself, and convey from the centre to the periphery of the nervous system an abnormally large number of exciting impulses. Those parts of the body which are subject to the will—the purely voluntary muscles—resist these impulses most easily; and only in extreme cases, therefore, are their ordinary functions deranged; but the involuntary or purely organic functions, being unsustained by cerebral influence under the direction of a dominating will, have their usually regular and tranquil life easily disturbed and thrown into confusion by the unwonted number of exciting impulses transmitted to them from the preternaturally excited spinal cord."

Dr. Chapman also explains how the cold sweat, and the copious secretion of mucus often ejected from the stomach, are due to excessive stimulus from the spinal cord, which he affirms to be the efficient cause of glandular action; and maintains that those occasional phenomena of sea-sickness, cramps, or spasms—proceeding in rare instances to convulsions—are also due to hyperæmia of the cord. To a like condition of the sympathetic nervous centres, he refers the deadly pallor, the physical weakness, mental prostration, and indifference, which, in degrees ranging from mere *malaise* to such vital depression as to imperil life itself, form a part of the malady; and, in his elaborate monograph on the disease, he demonstrates, step by step, how the ship's movements cause an abnormally large afflux of blood in the nervous centres, and how, that condition having been induced, all the phenomena of sea-sickness are originated by it.

"The inevitable conclusion," he says, from all the facts and arguments of his exposition of the pathology of sea-sickness, is that "the only scientific and really effective remedy for the disease must be one which has the power of lessening the amount of blood in the whole of the nervous centres along the back. This," he has proved, "can be effectually done by lowering the temperature of the spinal region by the application of ice. A formidable looking remedy," he admits, "but when it is judged of by the aid of experience, it ceases to terrify, and, on the contrary, is found decidedly agreeable. Ice applied in bladders or by any of the ordinary methods would undoubtedly occasion great discomfort, would constrain the movements of the patient, compelling him to remain for the most part in one position, and in fact, could not be so applied as to insure success." But the application of ice along the spine, in the spinal ice-bag expressly devised by Dr. Chapman for the purpose, is liable to none of these objections. "It is necessary," he says, "*first*, that the ice be kept in contact with each region of the spine, the upper portion of the ice being prevented from falling down as the melting proceeds; *secondly*, that the application do not extend far on each side of the spinal cord, otherwise the patient will become cold; *thirdly*, that, having regard to the comfort of the patient, the mouth of the bag containing the ice be so effectually closed as to prevent the water from escaping as the ice melts; *fourthly*, that the mouth of the bag be as wide as the bag itself, in order that the bag may be easily and rapidly filled; and *fifthly*, that, without any inconvenience to the patient, facility should be afforded for giving escape to the air which accumulates in each compartment of the bag as the ice melts."

The following evidence of the soothing and agreeable effects of the ice is extracted from the reports of the *Experiments* published by Dr. Chapman in his pamphlet on *Sea-Sickness*, of the efficacy of the Spinal Ice-bag in curing that disease:—

CASE 1.—"I think nearly every one was sick, and I, the usually most of all, not only not sick, but even well, feeling as if I were in a cradle, being rocked by the gentle hands of a tender nurse. . . . I don't know of course the effects of ice on a long-continued voyage, but I venture to believe that the feeling of perfect comfort would continue as long as the ice is kept on." CASE 2.—"She felt the cold to the back peculiarly grateful, but wished it more intense; the bag was therefore placed next the skin. This change delighted her." CASE 4.—"In about ten minutes after the vessel started she became violently sick, the muscular effort being so extreme as to cause her to say, 'Oh, doctor, I think my heart is coming up!' I applied ice along the entire spine as quickly as possible, when she was *instantaneously* relieved, and then lay down upon the ice soothed and calm." CASE 6.—"About twenty minutes before reaching Boulogne, the ice in the bag was so nearly melted as to cause her to feel that the refreshing and sustaining influence of the cold was lessening; I therefore placed an additional bagful of ice outside her dress, and over the bag already supplied; this sufficed to restore the agreeable sensations she had hitherto enjoyed, and to continue them until she landed at Boulogne." CASE 9.—"During the second two hours (of the passage to Dieppe) she was fast asleep—lying on the ice. . . . She was particularly impressed with the relief afforded her by the ice, from the great suffering in the head which she had always experienced before when at sea." CASE 10.—"After lying upon the ice, both her sickness and headache ceased entirely." CASE 11.—"She was lying down very sick, and complained especially of an acute headache. She was laid on a bag of ice, the bag being next the skin. The head became quite free of pain in a few minutes. . . . Still lying on the ice, she fell asleep. In about half an hour she awoke quite well, and continued so." CASE 12.—"Having put on an ice-bag, I continued to feel ill about fifteen or twenty minutes, and then rapidly recovered: all nausea, sweating, and chilliness ceased; the color returned to my face, as observed by the captain and some of the passengers; the troublesome threats of diarrhoea and uncomfortable sensations in the bowels passed away, and I continued quite well—really enjoying the remaining five hours of the passage to Dieppe. I wore the ice nearly the whole of the time." CASE 14.—"He said he felt the cold agreeable and refreshing; in a few minutes he said he felt better; before long he expressed his astonishment at finding all uncomfortable sensations, together with the nausea, wholly gone." CASE 15.—"The lady fears the sea so much as to be in a fright the whole time; this time she was not frightened at all after

the ice had been applied." **CASE 16.**—"She soon became warm, and fell asleep with the ice on her back. She awoke very hungry, and quite well." **CASE 17.**—"She was so delighted, poor creature, she thanked me a thousand times. The ice made her quite well, and she went to sleep with it on her back."

ART. 49.—*Cure of Sea-Sickness.*

By Dr. DWINELLE, of New York.

(*New York Medical Journal*, January.)

Dr. Dwinelle publishes an account of a method of treating sea-sickness, which he saw employed, by Dr. Le Coniat of the French navy, with remarkably successful results.

The skin over the stomach is moistened with a solution of sulphate of atropia, in the proportion of a grain to an ounce of water. A flat disk, forming a negative pole of an ordinary volta-electric apparatus, is applied over the pyloric end of the stomach. A sponge attached to the positive pole is passed, for three or four minutes, from the cardiac towards the pyloric end, varied by being occasionally passed downwards. The application is not painful, and is generally followed by refreshing sleep.

In a stormy passage from Brest to the United States of America, Dr. Dwinelle, who suffered much from sea-sickness, was treated in this way by Dr. Le Coniat, with great benefit; and in every instance in which he saw the remedy applied great and immediate relief followed, and generally a complete cure.

ART. 50.—*Treatment of Dysentery.*

By C. A. GORDON, M.D., C.B., Deputy Inspector-General of Hospitals.

(*Medical Press and Circular*, March 3, 1869.)

Experience induces Dr. Gordon to believe that in cases not only of inflammatory dysentery, but in those of the hemorrhagic type of the disease, enemata of hot water repeatedly administered are not only to be highly recommended as means of treatment, but that they afford an amount of relief to the patient that by no other means can be obtained. Dr. Gordon does not mean by this the repeated introduction of long enema tubes, such as were some years ago in common use in India, but the administration of lavements in the ordinary manner. Nor can he too strongly urge the great benefit and relief derivable from the very simple means of permitting patients affected with dysentery to sit upon commodes containing hot water. The vapor soothes the pain of straining in a manner that nothing else does, and thus no doubt becomes a powerful means of cure. Dr. Gordon recommends in cases of hemorrhagic dysentery, that, where gallic acid fails to check the flux, a solution of alum with diluted sulphuric acid added, or of acetate of lead with acetic acid, should be tried.

ART. 51.—*A New Treatment for Chronic Dysentery.*

By E. MALCOLM MORSE, M.D., San Francisco.

(*California Medical Gazette*, September, 1868; and *New York Medical Journal*, November.)

In chronic simple uncomplicated dysentery, by which are meant those cases not kept up by organic disease of the heart, or phthisis pulmonalis, nor dependent on irremediable obstruction of the liver or spleen, Dr. Morse has met with marked success by throwing up into the rectum and colon from two to five pints of Labarraque's solution of chlorinated soda, largely diluted. The theory of the treatment is based on rational principles, and the remedy gives little or no pain, while experience has demonstrated that it is perfectly safe, no bad effects thus far having been observed. Chronic dysentery is a disease so

usually intractable and obnoxious to treatment, that any plan which promises even moderate success is worthy of trial. Of course, in the complicated cases above referred to, the primary treatment must be directed to the disease on which the dysentery is dependent. Dr. Morse says:—

“In order to get the patient into a proper condition to derive the most benefit from these injections, I am in the habit of pursuing the following method: I regulate his diet carefully, of course, and keep him in a recumbent position in order to assist the return of the blood from the engorged mesenteric veins, and those smaller tributaries which are distributed along the large intestine. This state of engorgement prevents the ulcers from healing, and renders each ulcer an outlet from which, in blood and serum, the stream of life ebbs out like water from the tubs of the daughters of Danaus. At daybreak on every alternate or fourth day I give a mild cathartic or aperient, in order to clear out the alimentary canal. The ordinary contents of the intestine produce great irritation when it is in this engorged and hyperæsthetic condition; and it is better to get rid of the feces about the same time instead of letting them run in dribbles over the raw surface every hour or two. After the cathartic or aperient has acted sufficiently, I inject very slowly from two to four pints of Labarraque's solution of chloride of soda, diluted, into the large intestine. In this way it becomes a topical application. The right strength for the first enema is twenty parts of water to one of Labarraque's solution. I inject as much of this mixture as he can be made to retain. Two or three pints will generally be enough. Sometimes as much as five pints may be given. Each enema should be made a little stronger, until the patient says that he can feel it smart or burn. When this happens the solution is of the proper strength. The patient should be on his right side, or on his knees with his head low down, while these enemata are being administered. Occasionally it is necessary for him to change his position several times in order that the wash may reach every point where it is needed. Should there be much tenesmus after the injection has been passed, I give an enema of the tinct. opii, or an opium suppository. These applications of the chloride of soda should generally be made once a day. Occasionally it is necessary to give them twice a day, and sometimes, on account of the sensitiveness of the ulcers as they begin to heal, it is better to leave them off for several days, or give weaker solutions. The next indication in the treatment, after cleaning out the alimentary canal and washing the ulcers with the medicated solution, is to keep the bowels quiet, so that the ulcers may remain clean and heal up under the topical application. In suggesting the means of accomplishing this desideratum I am getting upon very debatable ground. The old proverb, '*tot homines, tot sententiones*,' must certainly have been intended for physicians. Each one of us has his own way of using the arms with which we combat disease. I generally give large doses of subnitrate of bismuth three times a day; repeated opiate enemata and suppositories, in order not to disorder the stomach; Dover's powders, repeated if necessary; charcoal, or the mineral and vegetable astringents; the antacids, leeches, and fomentations; taking great care to keep up the effect of the medicines by giving them every hour or two. If one drug fails I try another, or give a combination of several of them, in order to have as few stools as possible passing over the ulcerated surfaces while they are healing.”

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 52.—*Early Signs of Nephritic Irritation.*

By OWEN REES, M.D., F.R.S.

(*Guy's Hospital Reports*, Third Series, vol. xiv.; and *Dublin Quarterly Journal*, May.)

Dr. Owen Rees has found that a valuable indication in the early stages of kidney disease may be derived from the presence in the urine of *blood-extractives*, which may be recognized before the appearance of albumen in that fluid. The

escape of the extractives shows that a constant and important drain is going on from the blood, and is to be regarded as a warning of approaching albuminuria. The *blood-extractives* may be detected by the addition of tincture of galls to the urine, which immediately precipitates the extractive matters. After five or ten minutes the earthy and potash salts will be thrown down by the spirit contained in the tincture, so that it is necessary to remember that the reaction produced by the extractives occurs immediately after the addition of the tincture.

ART. 53.—*Diabetes Mellitus successfully Treated by Opium without Restriction of Diet.*

By FREDK. W. PAVY, M.D., F.R.S.

(*British Medical Journal*, January 9.)

Dr. Pavy reported to the Clinical Society of London the following two cases:

A female, aged sixty-eight, was admitted under his care into Guy's Hospital, on May 26th, 1868. Her complaint had been recognized two years, and at one time she had been passing an exceedingly large quantity of urine, and had been gradually losing flesh and strength. Upon admission into the hospital, the quantity of urine was about five pints a day, and was highly charged with sugar. She was placed upon the ordinary middle diet of the hospital, which included bread, potatoes, and beer. She was also ordered four ounces of brandy, and two bottles of soda-water daily. This diet was continued as long as she remained in the hospital. Upon the day of admission, a draught was ordered, consisting of ten grains of bicarbonate of potash, half a drachm of aromatic spirit of ammonia, and an ounce of infusion of calumba; to be taken three times a day. This draught was, by misunderstanding, continued throughout the patient's stay in hospital. Opium was given in the form of a pill, three times a day, and the dose was gradually increased. A daily examination of the urine was made; and the results were copied into tables. At first, the quantity of urine was 100 ounces, the specific gravity 1040, the quantity of sugar per ounce thirty-two and three quarter grains, and the quantity of sugar for the twenty-four hours, 3275 grains. The first effect of the opium was to diminish notably the amount of urine. The degree of saturation with sugar remained for a time about the same, but through the fall in the amount of urine, the quantity of sugar for the twenty-four hours was diminished. Within three weeks the quantity of opium administered was raised to ten and a half grains daily. It was then suddenly discontinued on account of a greater degree of drowsiness than was desirable being produced; but in a few days was recommenced, and this time, being more gradually increased, was borne without producing any disturbance. On July 28th, the quantity of urine was twenty-five ounces daily, the specific gravity 1027, and no sugar was passed. On the three subsequent days there was a little sugar, but it afterwards disappeared, and remained absent as long as she continued in the hospital, viz., until October 28th. When the sugar disappeared, the patient was taking nine grains of opium daily. It was afterwards further increased to twelve grains, and then gradually diminished until Oct. 17th, when all was taken off, the patient during the remaining time taking no medicine, and passing no sugar. The last daily record was forty ounces of urine in the twenty-four hours; specific gravity, 1025; and no sugar. With the improvement in the state of the urine there was a corresponding improvement in the health and strength of the patient, who ultimately expressed herself as feeling perfectly well in every respect. Upon being discharged, she lived precisely as she was in the habit of doing before she became affected, and had come to the hospital several times; the urine being on each occasion, found devoid of sugar. Dr. Pavy brought to the Society some urine passed on that day, which, upon being tested with the cupro-potassic solution, was seen to be free from sugar. Dr. Pavy had given opium and morphia in other cases; and the result strikingly exemplified the controlling influence of the drug over the disease. One was a middle-aged man, who was suffering from a severe form of

the complaint. By restriction in diet, the quantity of sugar had been reduced to about 1200 and 1500 grains a day. Opium was then administered alone, in gradually increasing doses up to 18 grains daily, when the urine was found to have become devoid of sugar. The opium was then suddenly discontinued, and an ounce of camphor mixture given three times a day. The urine, when the opium was discontinued, amounted to thirty ounces daily; its specific gravity was 1025; and it contained no sugar. On the following day it contained a trace of sugar; the third day, 140 grains were passed; the fourth day, 120 grains; the fifth day, 340 grains; the sixth day, 800 grains; the seventh day, 402 grains; the eighth day, 1060 grains; the ninth day, 680 grains; the tenth day, 612 grains; the eleventh day, 720 grains; the twelfth day, 1712 grains; the thirteenth day, 1162 grains; and the fourteenth day, 1440 grains—when the quantity of urine amounted to sixty ounces for the twenty-four hours, and its specific gravity was 1038. The opium was now resumed, and the daily dose increased until, as before, it amounted to eighteen grains. The urine was now reduced in quantity to thirty-five ounces per diem; its specific gravity was 1033, and the sugar passed amounted to 368 grains. On the following day the urine was forty ounces in quantity, and the amount of sugar passed 250 grains. On the third day, quantity of urine thirty-five ounces, with only a trace of sugar present. On the fourth day, quantity of urine forty ounces; specific gravity 1021, and no sugar. After the period mentioned, a little sugar was again passed, and it was found that the patient was not adhering strictly to the diet that had been ordered. Dr. Pavy had seen him since his discharge from the hospital. On returning home, he discontinued all medicine, and paid no attention to diet, and, as was to be anticipated, his urine was again charged with sugar. The other case was that of a patient who was passing, upon a mixed diet, from eight to ten pints of urine a day, containing about 8000 and 9000 grains of sugar. By a restricted diet and an alkaline mixture, the urine was reduced to four and five pints daily, and the sugar to about 1500 grains. The mixture was discontinued, and hydrochlorate of morphia given, at first in half-grain doses three times a day. The dose was increased, until in about two months nine grains were given daily. The urine fluctuated now between three and four pints a day; and the specific gravity had descended from 1028 and 1030 to 1018 and 1020. The urine also had become devoid of sugar. M'Gregor, as far back as 1837, had published in the *London Medical Gazette*, a record of two cases in which opium had been given in large doses, with the effect of producing for a time a marked palliation of the disease. M'Gregor, in one of his cases, had increased the quantity of opium until it reached ninety grains daily. By modern practitioners, opium had also been generally looked upon as exerting a favorable influence in the disease; but he was not aware that direct evidence of its controlling influence, such as was supplied by his communication, had been previously placed upon record. There was still, he thought, much to be learnt about its extent of power in different cases. The belief was, from the case which formed the basis of his communication, and other experience that he had had, that it would be found sufficient in many instances; amongst elderly subjects, where the disease was observed to assume its mildest form, to check by itself the elimination of sugar. In young and middle-aged subjects, however, where the disease as a rule assumed a much more severe character, his experience was that, to obtain a similar effect, the restricted diet must be continued.

ART. 54.—*Cure of Albuminuria by Iodide of Calcium.*

By M. BAUDON.

(*Bull. Gén. de Thérap.*, November, 1868; and *The Practitioner*, February.)

A number of cases of albuminuria in which the potassium salt failed, and the calcium salt gave good results, are put on record by M. Baudon. We can not give the details of these cases, but may briefly refer to one or two of them. One of them, that of a woman, aged thirty-six, with albuminous urine, and other characteristic symptoms, was first put on the iodide of potassium in the ordinary

doses, with quinia wine and good animal diet. This produced very unsatisfactory results. The iodide of calcium was then tried. At first it was given in doses of 40 centigrammes (about gr. vj) a day, in three doses, taken in half a glass of fresh water. In the course of a fortnight the dose was increased to 1½ grammes (gr. xxv) in the twenty-four hours. Ultimately the progress under this treatment was so satisfactory that the dose was increased to 3 grammes a day in combination with iodide of iron and quinia wine. At the end of thirty-nine days' treatment, in the course of which the dose of the calcium salt was raised to 4 grammes a day, the patient had completely recovered. M. Baudon regards this as a crucial experiment. But in the presence of our knowledge of the advantage of quinia and iron in certain hæmaturias, it may be asked to what was the result due, the iron and quinia, or the iodide of calcium?

ART. 55.—*Etiological Relationship of Bright's Disease of the Kidneys and Scarlet Fever.*

(*Centralblatt f. d. Medicin. Wissenschaften*, November, 1868; and *American Journal of Medical Science*, April.)

Dr. Steiner examines this question in the *Jahrb. f. Kinderheilk.*, 1868. He rejects entirely, as without foundation, the doctrine which teaches that the *nephritis scarlatinosa* is either an accidental complication or a sequel of scarlet fever; but in like manner as the angina, so common a symptom of the disease is produced by the same morbid cause to which is due the eruption on the surface; that is, a localization of the same pathological process upon the kidneys—in the one case, as upon the throat and skin of the others. Post-mortem examination and testing of the urine, from an early period in the disease, show that the kidneys suffer from the commencement of the attack, and not merely from the period of desquamation. The nephritic affection is usually of a purely catarrhal character, and occasionally of so mild a grade as not to be detected during the lifetime of the patient. On dissection after death, however, its existence is shown by the swollen condition of the epithelium of the tubuli uriniferi. When, besides the presence of albumen in the urine, we find cylindrical casts and blood, the nephritis has assumed the croupose form. According to Dr. S., this is the result of a purely mechanical cause, the accumulation of epithelial debris, namely, in the tubuli of the kidneys. There results from this a stasis of blood in the parenchyma of the kidneys, and finally effusion. The influence of cold experienced by the scarlatinous patient during the period of desquamation, in the production of nephritis, Dr. S. believes to be much overrated. The croupose form of nephritis often sets in, as such, very suddenly, and may proceed attended by abnormal urination without the slightest indication of dropsical effusion; while, on the other hand, anasarcaous swelling may be present without any disease of the kidneys. Nothnagel has observed many such cases.

ART. 56.—*Peroxide of Hydrogen in Diabetes.*

By S. J. BAYFIELD, M.R.C.S.

(*British Medical Journal*, October 17, 1868.)

Mr. S. J. Bayfield has published a case of diabetes cured by peroxide of hydrogen. He commenced with half-drachm doses of the ethereal essence of the peroxide, gradually increasing it to three drachms a day. He also materially relaxed the patient's diet, substituting more agreeable articles for those he did not like. After ten weeks' steady perseverance, with occasional fluctuation, the patient quite recovered, and has kept well for several weeks.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 57.—*The Diagnosis of Eczema.*

By ERASMUS WILSON, F.R.S.

(Journal of Cutaneous Medicine, April.)

"With regard to the diagnosis of eczema," Mr. Wilson writes, "it is a superficial and chronic inflammation of the skin, attended with a rugged and desquamating state of the epidermis, and with the exudation, or a tendency to exudation, of an ichorous fluid; the ichorous fluid being sometimes detained in minute vesicular elevations of the epidermis, sometimes free, and sometimes infiltrated in the tissues of the skin. When all these signs are present together, and especially the exudation and the broken epidermis, eczema stands self-confessed; but we have also, frequently, to foresee that an erythematous eruption will, at a future period, become exudative, or that a state of desquamation has, at an earlier period, passed through an exudative stage. In a word, any doubt as to diagnosis can only arise in the instance of the erythematous and papulous forms of the affection, and sometimes, but more rarely, in the squamous.

"Wherever a doubt does exist, we must fall back on the other known phenomena of eczema. Thus, if there be suspicion of an eczematous diathesis; if the patient have any present indication of eczema in the known haunts of that affection, as in the joints, behind the ears, in the head; if he have previously suffered from eczema in any shape; these may be taken as corroborative proofs in aid of your diagnosis. Again, another source of verification is presented in the negative phenomena of the disease. Eczema, it will be remembered, is slow in its progress. It is more superficial than erysipelas, but deeper than erythema. It is unattended with swelling in the beginning, and is rarely marked by much swelling throughout its course. It is pruritic from the first, and the pruritus increases with its advance. It is rarely developed with the uniformity of an exanthem. It is apt to be patchy in one place and papulous in another, and each day contributes to relieve us from our doubt. Moreover, it is important to remember that, unlike the exanthemata, eczema has no premonitory symptoms, and no concurrent febrile manifestations.

"On the other hand, eczema has sufficiently close resemblances to other affections to make it necessary that you should use your best judgment in the inquiry. An erythematous, or a papulous eczema, may resemble a variola, a scarlatina, a rubeola, a roseola, an urticaria, an erysipelas, an erythema, a syphiloderma, or a lepra; but if you are well grounded in the natural history of the disease, your doubts will soon vanish, and you will learn to decide without hesitation. There is a moment when a herpes closely resembles an eczema, but in the fully-developed form of either it would be difficult to make a mistake between them. The same may be said of bullous affections, in their broken state, when they expose to view an inflamed derma, exuding a copious ichorous discharge; and a like remark applies to the circumscribed, squamous, and hypertrophic blotches of eczema, in relation to the well-known disks of lepra Græcorum."

ART. 58.—*Treatment of Eczema.*

By G. BORLASE CHILDS, F.R.C.S.

(The Lancet, February 20.)

Mr. Childs recommends a solution of nitrate of silver, ten grains to the ounce of distilled water. This should be applied every second day by the aid of a camel-hair brush; the parts afterwards to be covered with dry lint and oil-silk, and well bandaged from the toes to the knee. Of course the secretions must be attended to. But should the affection be complicated with any disease of the chest or kidneys, it had better be left alone, as under those circumstances Mr. Childs looks upon eczema as a safety-valve, to repress which would only exaggerate the *origo mali*, and probably shorten life.

ART. 59.—*Treatment of Eczema.*

By W. CORY, M.D.

(The Lancet, February 20.)

Dr. Cory recommends the application of Schmier's soap, to be continued as long as it produces a pretty strong reaction of the morbid surface; when the reaction ceases, an inunction with cod-liver oil will generally complete the cure. He has also found that the dyspepsia which usually accompanies the disease is more readily relieved by the internal administration of trisnitrate of bismuth.

ART. 60.—*Notes on the Treatment of Favus.*

By HENRY SAMUEL PURDON, M.D., Physician Belfast Dispensary for Diseases of the Skin.

(Medical Press and Circular, February 3.)

The method of treatment pursued at the Glasgow Dispensary for Skin Diseases consists in removing the crusts by poulticing, then epilation is commenced, and into the part from which the hairs have been extracted, a solution of the bichloride of mercury, two grains to the ounce, is firmly rubbed in, after which a little sweet oil is applied. The epilation may have to be performed more than once. The great point in the treatment of favus seems to be excluding the air from the affected part, which can best be done by the application of oil or ointment; some physicians prefer cod-liver oil. As a local application, creasote has the property of preventing the spores from germinating, and is used by many, as also ointments of white precipitate of mercury, dilute citrine, or iodide of sulphur. Neligan employed constitutional remedies and local applications, the former "used with the intention of correcting or altering that vitiated condition of the system generally, to the existence of which is due the development of the morbid growth in a congenial soil, and the latter to remove the diseased mass constituted by the peculiar vegetable parasite, and to prevent its production." Internally administered iodine and arsenic, in strumous children, cod-liver oil, whilst locally—when the disease occurred in the head—the hairs were cut short, poultices applied to remove the crusts, and the head washed with a strong carbonate of potash lotion, afterwards carbonate of potash ointment applied, over which an oil-skin cap was worn. In two or three days iodide of lead ointment being substituted.

In one case Dr. Purdon tried a lotion of sulphurous acid, one ounce to eight of water, but it did not succeed, the head having to be epilated and treated with the bichloride of mercury lotion. Dr. Purdon has observed tinea circinata and favus existing together. In treating the former affection he now uses a solution of chromic acid, a drachm to the ounce, one application of which is generally sufficient. Patients affected with vegetable parasitic diseases require a good nutritious diet, such remedies as quinine, cod-liver oil, and syrup of the iodide of iron being prescribed.

ART. 61.—*Treatment of Psoriasis by Balsam of Copaiba.*

By FREDERICK SIMMS, M.B., M.R.C.P.

(British Medical Journal, March 13.)

Dr. Simms's plan is to give from ten to twenty minims of the drug with liquor potassæ and mucilage, and gradually to increase the dose; with young subjects, and especially with fresh cases, the copaiba rash soon appears, and, as it were, carries off the old disease with it. These patients, Dr. Simms says, mend rapidly, two or three weeks find them nearly well; but old subjects, and those with relapses, are harder to cure, the characteristic rash is slow in coming out,

and sometimes they recover without having it at all. In one case only, that of a young girl at St. Louis, had he seen any trouble arise; in this case erysipelas complicated the affair, but was transitory, and without influence upon the case.

ART. 62.—*On Cutaneous Symptoms in Pyæmia.*

(*Gazette Hebdomadaire*, No. 46, 1868.)

The author of an anonymous article on anthrax reports a case of pyæmia in which he observed during life a special acute eruption extended over most of the surface of the body, and manifesting various forms, but with the general aspect of a circumscribed exanthem. The following case had previously enlightened him on the significance of this phenomenon as a diagnostic sign of pyæmia:—

In the course of the year 1867, a man about fifty years of age was admitted into the Lariboisière with stricture of the upper portion of the œsophagus. In spite of emaciation and exhaustion, natural consequences of insufficient nutrition, his general health was fair. Several unsuccessful attempts were made to overcome the obstacle, when finally a small silver sound, which was flexible and terminated by an olive-shaped swelling of some millimetres was passed. On the following day the patient complained of a dull pain at the lower part of the neck on the left side, and deglutition then became painful and more difficult. Some amelioration followed the application of leeches, but the pain again returned, and an intense rigor came on during the following day. Leeches were again applied, but the fever continued and was accompanied by thirst, general depression, change of countenance, and grave presentiments. Four days after the commencement of these symptoms, bright red spots appeared on the dorsal surface of the wrist and around the olecranon processes and patellæ; these spots were rounded, distinctly circumscribed, about one centimetre in diameter, disappearing incompletely under pressure, and causing neither pain nor pruritus. On the following day the spots were increased in size, and by joining most of them together had formed around the olecranon and patella an almost complete ring with irregular contours. Other similar spots afterwards made their appearance upon the dorsal aspect of the forearm, on the inner surface of the left thigh, &c. A finger of the left hand suddenly became swollen and extremely sensitive to pressure, and the integument marked by a diffused rose color; analogous phenomena over one of the malleoli and on the internal aspect of the great toe on the right confirmed in a decisive manner the diagnosis of pyæmia. The patient died four days after the commencement of the eruption, which extended to several parts of the limbs, always keeping to the same surface, and at times taking on the appearance of acute lymphangitis. At the autopsy were found numerous metastatic abscesses and purulent collections in the finger, great toe, and over the malleolus. There was very irregular contraction of the œsophagus; no trace of false passage or laceration could be found; a purulent deposit was in contact with the left part of the tube a little below the seat of stricture, but did not communicate with the œsophageal canal.

The cutaneous eruption in this case presented a striking analogy with that presented in the case mentioned in the clinical report on anthrax. The wrists were first attacked, and the eruption by its color, limitation, and seat reminded the observer of psoriasis.

It seems to the author of this article impossible to deny a close relation between this limited exanthem and pyæmia, and he has been led to believe that the lesion consists not only in an active injection of the dermis, but likewise in a true production of leucocytes, as has been made out by M. Velpeau in erysipelas.

Allusion is made to another cutaneous manifestation which has also been observed in a case of putrid infection or slow septicæmia terminating in acute pyæmia.

A young man was admitted into the Lariboisière for an abscess in the left iliac fossa rapidly formed in connection with a lesion of the lumbar vertebra, which was characterized as a sub-periosteal vertebral abscess. The purulent

collection was opened, drained, and daily injected with tincture of iodine. For some time there was a prospect of cure, but in spite of all the efforts made, hectic fever came on with all the indications of a progressive septicæmia. At last symptoms of pyæmia made their appearance and resulted in death. At the autopsy were found metastatic abscesses and signs of phlebitis of the external and iliac and of the pelvic veins on the affected side. Forty-eight hours before death and after a rigor more violent than those preceding, the following appearances were made out: 1st, On different parts of the body were bluish circumscribed spots very similar to the livid eruption observed in some severe fevers; 2dly, A zone of bullæ, which were developed in the course of a few hours on the affected side. This zone commenced at the umbilicus and extended in a half circle along the abdominal wall, running parallel to the crest of the ilium in its course to the spine. The bullæ were of a considerable size, and varied from five to eight millimetres in diameter; some were surrounded by a zone of inflammation. The majority of these bullæ had fallen away on the evening before death. After removing the epidermis, one could see a black staining which involved nearly the whole thickness of the dermis, and was due to mortification of the skin.

From these facts it is concluded—1st, That in cases of pyæmia the skin becomes the seat of various exanthematous eruptions; 2dly, That this symptom is rare, if one may judge so from the silence of authors; 3dly, That it is the *avant-courier* of approaching death.

In a foot-note the author states that he has seen an eruption of purpura in a patient who succumbed to pyæmia after amputation at the thigh. It is also stated that M. Gallard has often observed, in cases of puerperal peritonitis, transient red patches occupying different parts of the face.

ART. 63.—On *Lupus Erythematosus*.

By ERASMUS WILSON, F.R.S.

(*Journal of Cutaneous Medicine*, January, 1869.)

"*Lupus erythematosus*," Mr. Wilson writes, "is a nutritive disease of the skin, a dystrophic affection, occurring on the face, the head, and the extremities. It manifests itself in the form of patches of small size and irregular figures, and presents three principal stages, erythematous, encrusted, and atrophic. It evinces some variety also having reference to the region which it occupies; and is essentially chronic in its nature, lasting generally for a number of years.

"It is a rare affection as compared with other diseases of the skin; occurring only 56 times in 9000 cases; that is, somewhat more than six in the thousand, or little more than one-half per cent.

"Its most common seat is the nose, next the cheeks, particularly in the neighborhood of the eyelids, then the ears, next the scalp, and then the fingers and the toes. Very generally it is met with in two or three of these situations at the same time, and sometimes in all. On the nose it may be situated either on the bridge or on its tip. When it shows itself on the latter, it frequently begins like a chilblain; is red and somewhat swollen, and of a dull red or purplish or livid hue. On the bridge of the nose it begins as a patch of irregular outline, of a dull red or purplish color, sometimes a little raised, but generally flat. This is the hyperæmiated or *erythematous stage*. In a short time the activity of the centre of the patch subsides, it becomes depressed, and then is coated over with a rough scale or thin crust, composed of exuviated epidermis and dried sebaceous secretion. This is the *encrusted stage*; the crust or adherent scale being of a dirty yellow or grayish color; while the border of the patch maintains its prominence and vascular activity. After awhile the depression of the surface is more decided, the crust exfoliates, and the affected skin is found to be attenuated and resembling a cicatrix; this is the third or *atrophic stage*.

"It may be observed that the erythematous and the encrusted stage are not unfrequently blended, and then the first intimation that the patient has of disease of the skin is a thin concreted crust apparently composed of dry sebaceous

ous matter, more or less thin or thick, and surrounded by a narrow and irregular margin of a dull red color. Another character, which is so remarkable as to be almost pathognomonic of this disease, is the conspicuous appearance of the apertures of the follicles; the pores are large and dilated, distended with epithelial exuviae of a yellowish or a grayish tint of color, and often the dry and horny exuviae stand up prominently from the mouths of the follicles. It is obvious from this examination of the morbid patch, that the apertures of the follicles are thrown into relief less by the prominence of desiccated sebaceous matter with which they are filled, than by the absorption of the papillary layer of the skin of the interfollicular space; in fact, that the process of atrophy has already begun, and has made evident progress. And at a later period, not only the pores of the follicles are found in relief, but also the chaplet of sebiparous glands which open near their outlet. In some cases, we have seen a kind of delicate dissection of the subpapillary layer of the skin, exhibiting the pores, the sebiparous glands encircling their neck, and a coarse vascular network occupying the intervening spaces.

"On the cheeks and on the face the patches appear as dingy red spots, of irregular outline, coated over the greater part of their area with a dry, rough, horny concretion, forming a thin crust, studded with the gaping mouths of loaded follicles, and bordered by a narrow margin, which fades into the surrounding skin. The objective properties of the patches are dryness, exhaustion of function, attenuation, atrophy, suggesting the idea of a part that is parched up or burnt.

"On the ears, the tendency prevails to the more speedy passage of the disease from the erythematous to the atrophic stage; and encrustation is less common, probably from the smaller size of the follicles and of the sebiparous apparatus. Very frequently the integument is so attenuated that it is stretched like parchment over the cartilage; and the lobulus auris, with its contained fat and cellular structure, has disappeared. So also when the disease attacks the tip of the nose, the prominences and figure of the cartilages are rendered obtrusively conspicuous.

"On the scalp, the disease has very frequently reached the atrophic stage before it is observed; at this time there may be present a thin desquamating crust and complete baldness. The integument is so thin as scarcely to afford a covering to the bone; and the fall of the hair has ensued upon obliteration of the hair-follicles. As on other parts, the follicles are loaded with dry epithelial and sebaceous exuviae, and the baldness is irreparable.

"On the fingers and hands, as in fact upon the tip of the nose and lobule of the ears, the manifestation of the disease takes place by hyperæmiated blotches which resemble chilblains; and sometimes, when they occur in the winter season, are really chilblains. But although they most frequently occur in the cold weather, they may also make their appearance in the warmer seasons of the year. Compared with chilblains, they are more sluggish in their pathological changes, less influenced by temperature, and less itchy or painful; and their tendency is not to sloughing and ulceration, but to interstitial absorption and atrophy. Being chilblain-like in their character, these blotches are circular in figure, and somewhat prominent, of a crimson or purplish, or livid color. Subsequently they are depressed in the centre, or cupped, and at the same time the epidermis becomes hard, horny, and opaque; and at a later period the affected skin undergoes the same atrophic change which has already been noticed in the case of the patches on the face and head. It is to be observed, however, as there are fewer and smaller hair-follicles and sebiparous glands upon the fingers, there are no dilated pores, and no sebaceous concretion.

"As an affection due to deficient nutritive power, and consequently deficient vital power, the development of the disease at the periphery and at the extremities of the body is an occurrence that might be predicted. Hence the affection of the nose, the ears, the scalp, and also of the fingers and toes. In the instance of the cheeks, irritability may be present as an additional factor. Then we find this disease in individuals of weakly constitution, in females more commonly than in males, and especially in persons who complain habitually of cold hands and cold feet. The stages of the disease are everywhere the same,

the hyperæmic or progressive; the epithelial and stearrhœal, or stationary; and the atrophic, or retrogressive. The more or less prominence of the affection, and its greater or less encrustation, even its more or less complete atrophy, are due, in the main, to situation: the swelling is greatest on the fingers; the encrustation, on the bridge of the nose and face, and the atrophy on the ears and scalp. The reason is obvious: in the first of these situations the cellular tissue is most abundant and lax; in the second, the sebaceous glands are most active; and in the third, the circulation is weakest.

"Looking to the statistics of lupus erythematosus, we find it, as might be inferred from the preceding remarks, more common in the sensitive constitution of the female than in the more sturdy organism of the male; the figures in the two instances being 41 for the former, and 15 for the latter.

"The age of origin of the affection ranges between twelve and forty-eight; but in one instance it made its first appearance as late as seventy-one. The most common period of origin is that between twenty and thirty, in which there occur 22; and secondly, between thirty and forty, which gives 13; consequently, between the ages of twenty and forty, the number is 35. Of the remaining 21, 10 are referable to the period between ten and twenty, and 10 to that between forty and fifty; the twenty-first being the exceptional case, first developed at the age of seventy-one.

"The chronic nature and lengthened duration of the affection are shown by the fact that in the one instance the disease had been in existence for 45 years; 6 had lasted between 10 and 13 years; 17 between 5 and 10 years; and 24 between 1 year and 5; the remaining 8 only, having existed for less than one year when application was made for treatment.

"The peripheral character of the disease is shown by reference to the parts principally affected; for example, the nose, lips, eyelids, cheeks, forehead, scalp, fingers, and toes. In 21 instances these parts were separately affected, but in all the rest there was a combination of two or more of these regions. The disease appeared upon the nose only in 8 cases; on the cheeks only, in 6, three of these occupying the region of the whisker; on the eyelids, solely, it occurred twice; on the scalp only, also twice; on the fingers, twice; and on the upper lip, once. The combinations of several regions were as follows: Nose and eyelids, 4; nose and cheek, 3; nose and fingers, 3; nose, cheek, and eyelids, 2; nose, cheek, and forehead, 2; nose, cheek, and scalp, 2; nose, cheek, and fingers, 2; nose and scalp, 2; and of the following, one each, namely—nose, cheeks, and ears; nose, cheeks, lips, and forehead; nose, lip, and scalp; nose and chin; nose and ears; nose, ears, and fingers; nose, ears, scalp, and toes; nose and forehead; cheek and temple; cheek and ears; cheek, ears, and fingers; cheek, ears, scalp, and fingers; cheek and scalp; eyelids, neck, and fingers; and upper lip, eyelids, scalp, and neck.

"It is shown by these figures, that in the 56 cases before us, the disease attacked the nose 36 times; the cheek 24 times; the fingers, including the toes, 12 times; the scalp 11 times; the eyelids 10 times; the ears 7 times; and upper lip four times.

"The subjective symptoms of lupus erythematosus are very trifling, sometimes indeed so slight as scarcely to attract the patient's attention, they are, for the most part, pruritus, tickling, tingling, pricking or piercing, and heat; sometimes a burning sensation; and in the instance of the ears and fingers burning and throbbing. It is rare that we find it necessary to prescribe for these sensations.

"The cause of lupus erythematosus, as of the whole family of dystrophic affections, is a *constitutional nutritive debility*, which is sometimes *congenital* and sometimes *acquired*, or *accidental*. It is congenital in persons derived from a phthisical, strumous, or debilitated stock, and also in those whose nutritive power is congenitally weak, but without hereditary predisposition. It is acquired or accidental in such as have experienced the exhausting operation of unbalanced physiological or pathological processes; as in the instance of deficient nourishment, over-rapid growth, advanced age, mental strain, parturition; also in disordered assimilation, syphilis, and other forms of constitutional disease. Of the cases which follow, the disease was traceable in six instances to

a phthisical stock; four were coupled with struma; two were associated with another congenital dystrophic affection, namely, xeroderma, or epidermic ichthyosis; and three were referable to a congenital nervous debility. While among the predisposing causes of acquired constitutional debility, we find, ungenial climate, deficient or improper food, over-growth, old age, mental disquietude, parturition, assimilative disorder, syphilis, rheumatism, cholera, and erysipelas. Of the exciting causes, the commonest is cold, and then heat. In one instance the disease would seem to have been excited by erysipelas, and in another the exciting cause was a scratch with a bramble.

"Not least in importance in our studies of disease is the question of *prognosis*. Is lupus erythematosus curable? And to this question our experience enables us to answer in the affirmative; it is chronic, it is tedious, undoubtedly; from its very nature it must be so, because it takes its origin in a deficiency of vital force; but it is apt to get well spontaneously; and upon this fact we place our reliance of effecting a cure. There are some cases, in truth, which, from the impossibility of restoring the nutritive power, are unquestionably hopeless; but on the whole we have every reason to expect, knowing the cause, by judicious means to combat and to vanquish the inherent weakness on which the disease depends. On the other hand, however much lupus erythematosus may affect comfort, it touches not life; although it points to a necessity for medical interference and for the application of such means as conduce to the improvement of the general health. In a few words, lupus erythematosus is in general curable, but not easily curable, not without an effort and without a sound knowledge of the weak points of his opponent, on the part of the practitioner. The cure may weary the patient and weary the physician; both may be taught by it to take up their burden, and strive forward again.

"As all *treatment* of disease should be founded on rational comprehension of its cause, whether positive or presumed, we may take the idea conveyed by the words 'constitutional nutritive debility' as the aim of our treatment in lupus erythematosus; and to this end we may adapt our remedies, both internal and external; and whether hygienic, nutritive, or tonic. Our patients should be provided with good air, proper means of exercise, a congenial climate, cheerful and elevating pursuits and associations, sufficient clothing, and a generous and nutritive diet. To aid this intention, we may have recourse to nutritive medicines; for example, cod-liver oil, simple and phosphoretted, and arsenic in appropriate doses, and singly or in combination with iron. Moreover, as a cutaneous stimulant sulphur may in some instances be useful; and especially the sulphuretted mineral waters, such as those of Harrogate and Aix-la-Chapelle. And further, the list of predisposing causes will suggest other remedies, whether for the regulation of secretions, the stimulation of appetite, the improvement of the blood, or the strengthening of the nerves. In fact, whatever contributes to the perfection of the general health will invigorate the nutritive power, and whatever tends to invigorate the nutritive power will conduce to a healthy nutrition of the skin, and consequently to cure. Our favorite tonics are citrate of iron and quinine; nitrohydrochloric acid, with tincture of orange-peel, of calumba, of gentian, and the liquor strychniæ; sulphuric acid with cinchona; or phosphoric acid with a bitter tincture, or with that of the hydrochlorate of iron.

"The local remedies the best suited to restore power and health to the skin are the cold bath, frictions and ablutions with some kind of tar soap, or carbolic soap, or even sulphur soap; and the judicious application of stimulant remedies: sometimes we have succeeded in dispersing a patch of lupus erythematosus by pencilling with liquor plumbi; but our favorite remedies are carbolic acid, the liquor hydrargyri nitratis acidus, and a solution of equal parts of potassa fusa and water. We have also used, but with less success, the compound tincture of iodine and iodized glycerine. Sometimes we have obtained good results from the unguentum sulphuris iodidi, and sometimes from the unguentum hydrargyri nitratis; but in general strong stimulation by a liquid application, and repeated after each desquamation of the crust or of the epidermis, has usually answered best. One of our patients, who had been under the care

of Hebra, was treated with strong acetic acid; useful for a time, but not permanently effective."

ART. 64.—*A Note on the Use of Sulphur in Itch.*

By TILBURY FOX, M.D., Lond., Physician to the Skin Department,
Charing Cross Hospital.

(*The Lancet*, March 6.)

"In treating scabies," Dr. Fox writes, "we should use the specific remedy in recent cases as freely as we like to the interdigits and wrists *only*, and apply *soothing remedies to the general surface*; that the sulphur should be in small quantity, and that sulphur baths should be discarded." Dr. Fox employs half a drachm to an ounce of lard, with three drops of creasote, and five grains of ammonio-chloride of mercury, a little olive oil, and a drop or two of essential oil. In chronic itch, however, this form of specific remedy may be applied to all eruptions of discrete character. Dr. Fox prefers the three days' treatment of scabies, keeping on the same linen, and then having a thorough cleansing with soap and a clean change. Less after consequences follow this than more heroic and rapid modes of cure.

ART. 65.—*Method of Applying Nitrate of Silver in Erysipelatous Inflammation.*

By JOHN HIGGINBOTTOM, F.R.S., of Nottingham.

(*The Practitioner*, January.)

Mr. Higginbottom, to whom the profession is indebted for the knowledge of the value of nitrate of silver in external inflammations, complains that the directions given by him have been incorrectly copied by writers on the subject. His mode of applying the remedy is as follows:—

"The affected part should be well washed with soap and water, then with water alone, to remove every particle of soap, as the soap would decompose the nitrate of silver; then to be wiped dry with a soft towel. *The concentrated solution of four scruples of the nitrate of silver to four drachms of distilled water is then to be applied two or three times on the inflamed surface and beyond it, on the healthy skin, to the extent of two or three inches.* The solution may be applied with a small piece of clean linen, attached to the end of a short stick; the linen to be renewed at every subsequent application. As the solution of nitrate of silver is colorless, it is necessary to pass a little linen, just moistened, over every part where it has been used, in order to be equally diffused, so that no part be left untouched.

"In about twelve hours it will be seen whether the solution has been well applied. If any inflamed part be unaffected, the solution must be immediately reapplied. Sometimes, even after the most decided application of the nitrate of silver, the inflammation may spread; but is then generally much less severe, and is eventually checked by repeated application. It is desirable to visit the patient every twelve hours, until the inflammation is subdued.

"By these means we have complete control over the disease.

"For the successful application of the nitrate of silver, the ordinary brittle stick, either solid or in solution, must be used. Not the 'lunar caustic points perfectly tough,' nor the crystals and cake used for photographic purposes."

ART. 66.—On the Application of Oil of Turpentine for Parasitic Affections of the Skin, and for Traumatic Erysipelas.

By Professors K. VON ERLACH and E. LÜCKE.

(*Berliner klinische Wochenschrift*, 44, 45, 1868; and *Schmidt's Jahrbücher*, No. 1, 1869.)

For the destruction of the parasites acting as the cause of many affections of the skin, Kuchenmeister recommended, by preference, alcohol—an agent which immediately arrests the development of all algoid formations. Various experiments have, however, convinced Professor Erlach that alcohol does not extend its action to the fungous bodies vegetating within the hair bulbs. Pityriasis versicolor may indeed be rapidly removed by alcohol, but the tincture of iodine acts more surely than pure alcohol on fungi existing under the surface of the skin in the hair follicles, as in herpes tonsurans. Still, in order for this latter agent to work effectually, it is necessary to shave the whole head, and to apply the tincture repeatedly until the epidermis has been renewed for three or four times, and even then the cure often fails, which in the most favorable cases of herpes tonsurans never takes place before the hundredth day. Professor Erlach states that in cutaneous affections of this kind, oil of turpentine applied with a brush acts more rapidly and with greater certainty. A case of herpes tonsurans thus treated was cured in fifty days, and several cases of mentagra were cured within a week in the same manner.

Since, according to modern views, traumatic erysipelas, as well as septicæmia, is enumerated among the infectious disorders, and as it very often withstands the ordinary methods of treatment, Professor Lücke has endeavored to destroy the infecting agent by means of some deeply penetrating fluid, and with this view brushes over the affected places with oil of turpentine. The following case is selected as an illustration of this method of treatment:—

“Compound fracture of femur; subsequent removal of a sequestrum. On the following evening, vomiting, headache; the temperature $40^{\circ}.0$; a very intense erysipelatous redness about the wound, and extending for some distance beyond; inguinal glands swollen and tender. Application of oil of turpentine. On the morning of the following day, the temperature $38^{\circ}.6$; erysipelatous rash somewhat paler; in the evening, temperature 38° . On the following day the redness had disappeared, and the temperature was normal.”

Similar treatment was practised in eight other cases with equally good results; in all the erysipelas ran its course in two or three days. Professor Lücke had previously observed many serious cases of this affection. The most remarkable fact, next to the speedy removal of the erysipelatous eruption, was the rapid fall of the temperature on the local application of the oil of turpentine, which remained constant after commencement of this treatment. This fall was the more surely brought about the more energetically the agent was applied, and was particularly well marked after the oil had been rubbed in. This fall in temperature even occurred when the erysipelas was somewhat far advanced. The reason of this fall is, according to Professor Lücke, to be sought for in the local destruction of the septic material upon which the fever primarily depends.

ART. 67.—On the Pathological Anatomy of Erysipelas.

By R. VOLKMANN and F. STENDENER.

(*Centralblatt für die Medicinischen Wissenschaften*, 36, 1868; *Gazette Hebdomadaire*, No. 8, 1869.)

The following local changes were observed in three cases of erysipelas: The first apparent phenomenon is a natural injection; one is struck by the dilatation of the vessels of the superior layers of the skin, the papillæ being completely filled with prominent capillary loops. In the superior layers of the

skin about the cutaneous vessels, are already observable a great number of small cells, which present the appearance of white blood corpuscles, or pus globules (leucocytes), and often placed in distinct series by the sides of each vessel; these bodies extend, either isolated or collected together, into the tissue of the skin. The exudation remains less abundant in the superior layers of the dermis. In the deep-seated parts it becomes excessive, and the vessels are inclosed by thick layers of leucocytes; finally, large patches are found, which are entirely formed by the accumulation of these bodies. These masses sometimes present a fusiform appearance, which might lead one to conjecture a proliferation of the corpuscles of the connective tissue, but in their centre one meets with the section of a vessel. The corpuscles of the connective tissue do not present any essential changes. These alterations are not localized in the dermis, and attain their greatest intensity in subcutaneous and adipose cellular tissue. The vessels in these tissues are completely inclosed within masses of yellow cells, and instead of prolongations of connective tissue enveloping groups of adipose vesicles, one observes but a kind of network composed of leucocytes isolating the fatty cells.

As soon as the skin becomes pale, towards the second or third day, the disappearance of the extravasated elements commences, especially in the subcutaneous cellular tissue; one observes there nothing more than considerable quantities of cells undergoing rapid transformation into very fine granular bodies; some hours later nothing more can be found than finely granular filaments.

In the more superficial layers of the skin one observes also that the lymphatics are filled with granular cells of a similar nature, either pressed together or commencing to accumulate near these vessels. But a small portion of the elements which form the infiltration may be taken up afresh by the lymphatic vessels, the majority die, and the most striking point is the rapidity of this process. Towards the third or fourth day no trace of the morbid processes is any longer to be distinguished in the parts previously affected.

ART. 68.—*On the Action of Arsenic on the Human System, especially in reference to its Use in Diseases of the Skin.*

By THOMAS HUNT, F.R.C.S., Surgeon to the Western Dispensary for Diseases of the Skin.

(*Journal of Cutaneous Medicine*, January.)

In answer to the question—How is arsenic to be used?—Mr. Hunt writes: 1st, it should be given in divided doses—three doses in twenty-four hours, simply to avoid an unnecessarily large dose. 2d, it should be diluted with pure water, or if the case require the influence of antimony, the *vinum antimonii*, say thirty-five minims, may be combined with five minims of the liquor arsenicalis, and this may be taken diluted three times a day. 3d, this dose should be taken with, or immediately *after*, a meal, in order that, being mixed with the patient's food, it may find a ready entrance into the blood, and that the bare possibility of its irritating the mucous membrane of the stomach or bowels may be avoided. Not that there is any danger of mischief, but the patient, aware that he is taking arsenic, may thus be disabused of all fanciful or imaginary suffering of this kind. 4th, it should be clearly understood that arsenic acts very slowly, and therefore it is best to begin with an average dose, say five minims of Fowler's solution, and this should be increased, not day by day, as was the practice thirty years ago, but two, three, or four weeks should be allowed to elapse before any necessity can exist for augmenting the dose. If during this time there should be set up an active or severe inflammation of the tunica conjunctiva in *both* eyes, the lower eyelid being swollen and showing on its lining membrane a horizontal streak of inflammation, then the medicine is not to be abandoned in a panic, but the dose may be reduced to four minims, and in a week or ten days the conjunctiva will be less inflamed; or, if not, a lotion of the liquor plumbi acetatis dilutus, or of cold black tea, will generally

suffice to relieve the investments of the globe of the eye, and even to remove the slight degree of ecchymosis which is sometimes seen in the sclerotic tunic. But during this week, if the patient has been properly prepared for the course, the disease of the skin will show some amendment; it will be shorn of its strength, and from this time the cure will be easy enough, although it may take many weeks, or even months, to effect it entirely. If it should be requisite that the course be continued for several months, the soles of the feet, and less frequently the palms of the hands, become more or less inflamed or rough, and very rarely slight vesications occur on the feet. These inconveniences must be borne patiently; they will only exist during the course. Sometimes, also, after a protracted course, the skin of those parts of the body which are covered by the dress assumes a dirt-brown, unwashed appearance, and under a lens presents fine scales. This also is an ephemeral appearance, somewhat annoying to females of delicate complexion, but not for a moment to be compared with the afflictive form of disease which requires arsenical treatment. Other symptoms are sometimes complained of; such as restless nights, hiccough, pains in the stomach and bowels, depression of spirits, and general nervousness. But all these, except the first, are mere mental impressions. They seldom or never occur in dispensary practice, when the patient knows nothing of the medicine he is taking. And, on the other hand, it is far more common for the patient to feel better and stronger under the course. The feet and legs become warmer in those cases in which the extremities are habitually cold; and nothing is more common than for patients to say, after a long course of this medicine, that *they have never felt so well in their lives*.

Hitherto we have supposed that the dose has been rather in excess. But it often happens that the reverse is the case, and that after a month's treatment the medicine shows no sign, and the disease remains *in statu quo*. It will now be necessary to increase the dose slightly, and perhaps repeatedly, not every day or every week, but about once in a month, nothing doubting that the effects will sooner or later appear.

Meanwhile it must not be forgotten that we are not dealing with a mere *machine*. The health of the patient must be closely watched, and the secretions carefully sustained. Above all, the bowels must not be allowed to act sluggishly. In many cases a full dose of calomel and compound colocynth pill will be required two or three times a week; and these doses are sometimes essential to the cure. If the legs, or feet, or abdomen become puffy or œdematous, the urine being scant and turbid, the case will not go on well until we have roused the kidneys to vigorous action by full doses of spiritus ætheris nitrici and acetate of potash, largely diluted with water, and accompanied with draughts of some aqueous fluid several times a day. This treatment is seldom required, but when it is necessary it must be adopted, or the case will become unmanageable.

In other cases there will be present an atonic diathesis, with pale upper lip or amenorrhœa. Here we must combine iron with the arsenic, taking care that our chemistry is not at fault. We may mix the vinum ferri with Fowler's solution, or the tinct. ferri sesquichloridi may be combined with the liquor arsenici chloridi, taking care that the national Pharmacopœia does not lead us into error, of which there is no small danger.¹

It is never necessary, and rarely expedient, to exhibit triple compounds of arsenic, such as Donovan's solution, a very active but most unmanageable pre-

¹ The liquor arsenici chloridi of the London Pharmacopœia (De Valangin's solution) is little more than one-third of the strength of Fowler's solution (liq. arsenicalis). And this preparation (liq. arsen. chloridi) was entirely omitted in the first edition of the national Pharmacopœia. But in the second edition the medicine was restored in a new formula, the liquor arsenici hydrochloricus, which is nearly thrice the strength of the old liq. arsen. chloridi! We do firmly believe that this change was not intended for any mischievous purpose; but if such *had* been the motive, nothing could have been more likely to have led to serious mistakes than this change. A prescription for any compound for arsenic and hydrochloric acid is no longer to be trusted to a druggist who is either ignorant or careless in the slightest degree.

paration. Neither mercury nor iodine should ever be given in combination with arsenic. Each of these three energetic and useful medicines has its value. Each acts in a different way, a way of its own, and each has its own peculiar power over disease. But mix them, and this distinctive power is buried, not blended. According to the constitution of the patient, one or another of these remedies has the upper hand, and you have no means of ascertaining if each or either is defective or excessive in the dose, nor could you alter it if you had.

Arsenic will be found, in a smaller or larger dose, to agree with every individual, provided it be properly prepared, and taken with the utmost punctuality. Young children bear it very well, and girls about the age of puberty generally bear and require larger doses than adults of either sex. A child of one year old will require about half the dose proper for an adult. Some patients lose flesh under the course; others fatten; but for the most part there is no very sensible change in this respect, nor indeed in any other, except that, mixed with iron, arsenic is about the best remedy we have for anæmic amenorrhœa and chlorosis.

Fowler's solution is slightly objectionable. And it is so on two grounds. First, if it be kept very long on the shelves of the druggist, the bottle in which it is contained becomes lined with a very delicate film of metallic arsenic. This must render the strength of the solution uncertain. The remedy is, to use the solution freshly prepared. There is another objection to this solution, namely, the red lavender tincture, which for some foolish reason is ordered to be mixed with it, often becomes stale and nauseous, and the patient says the arsenic makes him sick! The obvious remedy is to use the solution without the lavender.

Nor are the chlorides without objection. The distilled water (in which the arsenious acid is boiled with the hydrochloric acid) almost always contains the germs of a microscopic vegetation, which in warm weather becomes developed, and the solution loses its clearness, the microscope revealing the filaments and spores of a beautiful plant, which is rarely to be found in distilled water in which arsenic is not dissolved. The remedy is to keep the solution in a cool place, or so to exclude the distilled water from the atmosphere, as that the floating spores cannot be received by it. We are not aware that the solution is less effective for this cause, but patients like to see it clear. A very few drops of the tincture of perchloride of iron will keep it clear in almost any weather.

In speaking of the most suitable diet for patients suffering under chronic disease of the skin. Mr. Hunt says the artificial and unvarying rules of diet which some practitioners hold out to patient indiscriminately who are the subjects of skin disease are absolutely ridiculous. There are three conditions of system which require three very different kinds of diet, and one and the same precept applies to all of them. Let the patient take just what he likes best, and as much of it as is most agreeable, and if this does not suit his case, we will challenge the whole College of Physicians to give him better advice than that contained in his own natural instincts.

1. This rule may be observed when he is in good health. 2. When his disease is inflammatory, a cooling, unstimulating diet is best, and his own instinct will teach him this. 3. When he is anæmic and feeble, he will crave naturally a generous diet and stimulants, and they will do him good. Of course, we do not mean to encourage drunkenness or gluttony, or what is almost as bad, the assumption of a dietetic science above the teachings of nature. Some few subjects of inflammatory affections of the skin we have known to prefer a restricted vegetable diet wholly without stimulants; and we have found that they cannot be cured unless they follow this instinct. But in *all* cases, except in those of intemperate habits, the patient knows far better than the doctor what is best for him; and it is well for mankind that it is so.

ART. 69.—*On Cutaneous Angioneuroses.*

By ALBERT EULENBERG, Privatdocent in Berlin. Translated by W. D. MOORE, M.D. Dub. et Cantab., M.R.I.A., L.K.Q.C.P.I.

(*Medical Press and Circular*, May 5.)

In an abstract of the above paper, given by Dr. Thilesen, in the *Norsk Magazin for Lægevidenskaben*, Christiania, xxii. Bind, 5 Hefte, the following résumé of the author's remarks, with reference to the essence and pathogenesis of herpes zoster, is given at page 330.

1. Zoster is a vaso-motor neurosis in the superficial cutaneous layers, an "exanthematous angioneurosis."

2. The vessels (the arteries, in severe cases also the veins) in the affected portion of the skin are during the eruption in a state of dilatation, relaxation; their tonic innervation is diminished, or for the time interrupted.

3. The spinal ganglia are not, as Bärensprung assumes, the sole starting point of the affection, as no vaso-motor nerves take their origin from them, or are even contained in them, as moreover, zoster by no means occupies the whole seat of distribution of a spinal nerve, but follows at one time the anterior, at another the posterior branches, at another only some of them, or even the extreme ramifications of the latter.

4. Zoster has rather, so far as the trunk and extremities are concerned, its starting point in the vaso-motor nerve fibres, which partly pass from the sympathetic to the spinal nerves of the far side of the vertebral column, partly perhaps emerge directly from the spinal cord with the posterior and anterior roots.

5. Zoster facialis originates in the vaso-motor nerve fibres, which accompany the facialis and trigeminus, and with respect to the first proceed perhaps from the vagus, with respect to the latter from the sympathetic.

6. Zoster presents in many cases, especially in the face, the form of a purely primary vaso-motor neurosis. In the cases where disturbances of sensibility attend zoster either as premonitory or concomitant phenomena, the possibility of a reflex origin cannot be excluded. The centre for reflex action is then the ganglia of the sympathetic. In these cases we have to do either with a *reflex irritation* with consecutive relaxation by peripherally increased irritation of the sensory nerves, or with a *reflex paralysis* in consequence of peripherally lowered irritability.

7. The herpes occurring in acute febrile diseases, especially in the face, probably owes its origin to the action of the fever-exciting cause on the vaso-motor nerve system itself, since as the result of the primary tetanic contraction of the small peripheral arteries, a persistent paralytic dilatation of the same occurs.

ART. 70.—*Notes on Dermatalgia.*

By H. S. PURDON, M.D., L.R.C.P.E., Physician Belfast Dispensary for Diseases of the Skin.

(*Journal of Cutaneous Medicine*, April.)

Dermatalgia, or neuralgia of the skin, Dr. Purdon states, is often associated with hysteria, when it is observed most frequently affecting the left side of the body, as manifested by increased sensibility to touch. This complaint may also arise from exposure to draughts of cold air, rheumatism, or derangement of the uterine functions. Dermatalgia is generally limited to one spot; but in the hysterical variety, met with in females, the pain and increased sensibility to touch may be erratic, thus invading a large extent of surface.

In the variety of dermatalgia attributed to rheumatism, the affection is usually limited, in patches, which may become erythematous. The pain is often associated with vascular disturbance, such as partial congestion; and is some-

times periodic, corresponding to the distribution of a cutaneous nerve, probably due to an inflammatory condition. When the pain is fixed and permanent, the sufferings of the patient are sometimes very severe. This variety, according to Damon,¹ is due to a "morbid condition of the sensory apparatus of the skin, and which not only appears to be increased in dermatalgia, but there seems to be a veritable multiplication in the 'points endowed with tactile sensibility.'"² Dermatalgia is frequently observed attacking the head, or other parts covered with hair, such sites being favorite situations. In the hysterical variety the affection is said to be due to "spinal irritation;" and, according to Trousseau,³ in neuralgia there is always tenderness, on pressure, over the spinous processes of the vertebrae, accompanied by cutaneous hyperæsthesia at the point of exit of the nerve-trunks.

According to Marcé,⁴ severe and long-continued dermatalgia is one of the first symptoms of commencing myelitis. Dr. Purdon has observed this affection, neuralgia of the skin, confined to the hands, in a case of cerebro-spinal meningitis.

In some cases the bromide of potassium is useful; and oxide of zinc, in doses of two grains, thrice daily, is occasionally beneficial, especially in the hysterical variety. To relieve the pain, and procure sleep at night, the solution of the bimeconate of morphia is an admirable preparation, and locally either belladonna, or aconite and opium liniment, may be used.

Trousseau,⁵ writing on cutaneous hyperæsthesia, informs us that the acuteness of the sensation varies according to the individual conditions, difficult to appreciate. It is dull in some, in others exalted. In those regions where the nerve-trunk, from being deep-seated, becomes superficial, as in the case of the external popliteal, and the internal saphenous nerves, the track of the painful nerve may be followed with the tip of the finger, as far as its cutaneous expansion. In the case of intercostal nerves the pain spreads over a considerable area, instead of being circumscribed. These nerves, at their exit, break up immediately into numerous branches.

ART. 71.—*The Treatment of Ichthyosis.*

By M. LAILLER.

(*Annales de Dermatologie*, No. II., 1869; and *the Practitioner*, March.)

In a very able paper on the varieties and treatment of this affection, M. Lailier fully confirms M. Demarquay's opinion of the great value of glycerine in these affections. Glycerine has, he says, many advantages over the fatty preparations; it does not stain, it is readily miscible with water, and hence, when required, can be easily removed by simply washing. Instead of drying when exposed to the air on the skin, it absorbs the atmospheric vapor and keeps the tissue supple and moist; it does not evaporate, its removal being effected by rubbing against clothing, &c.; it does not turn sour when of good quality; it produces no irritation in squamous affections. The mode of treatment is this: The patient is well washed with soap and water three times a week in order to remove the epidermic scales; he is then anointed with a mixture of the glycerinum of starch of the codex, with from 10 to 100 parts of laurel-water. Internal treatment in this affection is, according to the author, absolutely useless.

¹ *On Neuroses of the Skin*, p. 8.

² See Azenfeld *Des Nervoses*, Paris, 1864, p. 235.

³ *Clinical Medicine*, translated by Dr. V. Basire, vol. ii. 481.

⁴ *Des Altérations de la Sensibilité*, p. 14.

⁵ *Clinical Medicine*, translated by Dr. V. Basire, vol. ii. 481.

ART. 72.—*On the Oleum Sabinæ in Alopecia Pityrodes.*

By Dr. PINCUS.

(Virchow's Archiv, xliii., 1868; Schmidt's Jahrbücher, No. 1, 1869.)

Dr. Pincus has made experiments with certain agents in order to determine which might be fitted for modifying the growth of the hair, and thence derived the following results:—

1. Certain substances, as arsenic, veratria, cantharides, and sabina, when applied to the hair, render it brittle. Strong spirit does not act in this way; and carbonate of soda also, when applied in an aqueous solution, leaves the hair unaffected.

2. Inflammation of the hair follicle and of the surrounding parts results in a slower growth of hair. This slow growth continues for several months after inflammation has ceased, and the hair formed during this period does not possess its normal consistency. An increase of the typical duration of the life of hair seems to follow together with the slowness of growth.

3. Oleum sabinæ exerts a peculiar action upon the growth of hair: the rapidity of this is lessened, and the typical duration of its life is prolonged.

Dr. Pincus used the oleum sabinæ (from 5 to 30 drops to 1 ounce of spirit) on eleven patients suffering from alopecia pityrodes in its second stage. The oil was rubbed into the head at night, and also applied, by means of a saturated compress covered by oil skin. Under this treatment the daily loss of hair was considerably diminished, and this good result persisted for two or three weeks after the cessation of the treatment. The most satisfactory results, next to those from oleum sabinæ, were observed after the application of tannin to hairy regions—four scruples of tannin to one ounce of lard. The favorable action of this astringent persisted from four to eight days after the application had been discontinued. To sabina it may be objected that its intolerable smell will often necessitate the discontinuance of its use, that it renders the hair dry and fragile, and that the skin and hair, especially with blondes, becomes discolored. In the first stage of alopecia carbonate of soda acts as a very efficacious remedy when applied as a weak solution, which can be rubbed into the scalp without producing redness. This agent also causes a disagreeable discoloration of the hair.

SECT. III.—FORENSIC MEDICINE.

ART. 73.—*An Antidote to Snake Poison.*

(Pharmaceutical Journal, March.)

We have received from a correspondent, recently arrived in this country from Australia, an account of Professor Halford's experiments on animals, with the view of discovering an agent which should avert the poisonous effects of the bites of venomous snakes. The subject has recently attracted a large amount of attention in that country, owing to the Professor having employed his remedy—a solution of ammonia injected into the veins—with success in the case of a man exhibiting all the symptoms of snake-poisoning in a dangerous degree. We take our account from the *Lancet* of Jan. 30th. A man was bitten by a venomous snake, which he had taken into his hands, supposing it to be dead. Not long afterwards he became drowsy, and mentioned the occurrence to one of his mates. The latter immediately set about procuring medical assistance, but by the time it arrived the man was comatose, and his lower extremities paralyzed. Galvanism and other usual remedies were applied, but without effect. In this extremity the medical man first called in caused Dr. Halford to be telegraphed for. The case was the first opportunity he had had of applying his new treatment to a human being, and he at first felt some hesitation in resorting to it. An incision

however, was made through the skin, exposing the superficial radial vein, and the point of the syringe being introduced into the vein, the injection (of ammonia) was completed. The beneficial effect was immediate. From an almost pulseless state, and from a stupor verging on death, the patient speedily became conscious. He has been steadily recovering since, and he is now reported to be nearly well. Whether the earlier treatment in any way contributed to the cure cannot, perhaps, be certainly known, but there appears to be little doubt—medical men entertain none—that the case must have ended fatally but for Professor Halford's treatment. We require, of course, some further cases before the merit of the discovery can be determined. Ammonia is not a new remedy for snake-bites, but Dr. Halford has the credit unquestionably of having applied it in a direct way by injection into the blood, so that its effects should be immediate and general. Its application in this way could only be safe in skilled hands. The discovery was not fortuitous, but resulted from a consideration of the microscopical alterations which he found taking place in the blood-vessels of animals subjected to the snake-poison. It is only right to add, however, that the observations of D. Fayrer and others have failed to verify the statements made by Dr. Halford on the altered condition of the blood-corpuscles. We learn from a letter which Dr. Halford addressed to the *Melbourne Argus* that he had previously instituted a series of experiments on the lower animals, and he publishes five of them which he performed on dogs. In four instances the treatment was successful. To carry out the treatment, a solution of ammonia—of the strength of one part of strongest liquor ammoniæ to two parts of distilled water—and an ordinary hypodermic syringe are required. The ammonia is thrown directly, but gradually, into the blood by puncturing any superficial vein, and may be repeated as its beneficial operation ceases.

With reference to the above, "a late resident in India" observes (*Times*, Feb. 1) that the attention of Indian residents is not needed, as the Bombay Government, upwards of six years since, ordered the following remedy, with directions for its use, to be kept at every police station throughout the Presidency; "a late resident in India" thinks that instead of having to apply to a surgeon to inject the liquor into the veins, this remedy, which is given internally, can be applied by any one, and, in his opinion, is equally efficacious.

Liquor Ammonia Fortis for Snake-Bites.—DOSES: For an adult, 35 drops in 4½ tolas of water (a wineglassful); 12 to 15 years old, 20 to 25 drops in 2½ ditto; 8 to 12 years old, 15 to 20 drops in 2 ditto; 4 to 8 years old, 10 to 15 drops in 1½ ditto; infants to 4 years old, 3 to 10 drops in 1½ ditto.

ART. 74.—*The Treatment of Snake-Bites.*

By DR. BERNOCASTLE.

(*Australian Medical Gazette*, February 27.)

From a very large field of observation in New South Wales, extending over ten years, during which time Dr. Berncastle has paid particular attention to investigating this subject, where he had great facilities for doing so—having collected about two hundred cases of cures, or an average of twenty a year, which have come more or less under his notice from reliable medical authorities, some of which he has treated himself, he is enabled to lay it down as an axiom that no snake in Australia is equal to killing a man who, as soon as he is bitten, adopts the three following rules:—

1st. Pull up with the fingers the part bitten, and cut out immediately a piece of the flesh as large as a sixpence with a sharp penknife.

2d. Lie down on a sofa in the open air until quite recovered.

3d. Get a bottle of brandy, or any other spirits, immediately, and drink a wineglassful of it pure, without water, every quarter of an hour, until cured, or signs of intoxication begin to appear, which will be the proof that the poison is overcome, and the cure effected.

There can be no objection to sucking the wound and placing a ligature above it, to prevent absorption; but if the part is cut out at once, there is nothing to

suck, nothing to be absorbed; and the one being done, nullifies the utility of the other two, and simplifies the treatment. Scarifying the bite is bad, as it still leaves the poison there, and even quickens its absorption by exposing it to a larger surface of blood, which is not at all inclined to flow after a bite, and therefore no fear of hemorrhage need exist after cutting out the part. The blood, in scarifying, does not wash the poison away, but passes over it, leaving it exactly where it was first deposited by the fang. Cutting out the infected part thus does away with sucking, ligature, scarifying, and the necessity of applying any antidote to the bite, which last is simply an absurdity, as from the skin tightening over the puncture immediately it has been made, absolutely prevents any liquid reaching the virus at all; and if it did, nothing but aquafortis or potassa fusa would be of any use, as we have no proof of any milder fluids having the power to decompose effectually the snake virus.

With regard to the injection of ammonia into a vein, which has of late occupied public attention, Dr. Berncastle says, that the remedy is worse than the disease, and that if the bite could not kill a man, he would have a very fair prospect of being killed by such a dangerous and useless proceeding. If ammonia is to be introduced into the system, it can be done much quicker and in much larger quantities by the mouth, when it can be repeated every few minutes, than by the complicated, dangerous process of opening a vein; to do what? to throw into the circulation a few drops of ammonia, with the almost certain risk of phlebitis, or of death from air getting into the vein, which is more likely to occur than not.

Orfila, the greatest medico-legalist of the French school, says, in his lectures: "The experiments on the injection of ammonia into the veins were not attended with the results expected from it both by himself and others, the animals experimented on dying from convulsions of a more or less tetanic character, or from subsequent inflammation of the veins. The injection of this substance into the veins offers no advantage over giving it by the mouth, and its use by injection is attended by a danger of such an inconceivable character, that only a fool or a drunkard would employ it."

ART. 75.—*Carbolic Acid a Cure for the Bites of Venomous Snakes.*

(*Quarterly Journal of Science*, January.)

The value of carbolic acid as a cure for the bites of venomous snakes has been made public by Dr. J. W. Hood, B.Sc., of Melbourne. He writes: "I have long entertained the opinion that carbolic acid, taken internally, and used as a caustic to the wound, would be found to be beneficial, and perhaps a specific cure. That I am right to a certain extent is proved by the fact that a friend of mine, a medical man living at Warrnambool, Dr. Boyd, successfully treated two cases of snake-bite with carbolic acid. I am not aware of more particulars than that the first case was a young lad bitten by a tiger-snake, the most venomous these colonies produce, and Dr. Boyd, six hours after the boy was bitten, administered ten drops of pure acid in brandy and water every few minutes. The effect was magical—from a pallid countenance, slow pulse, and semi-comatose condition, the patient rallied to a bright expression, ruddy glow, and quick pulse, and the recovery, though slow, was continuous and certain."

ART. 76.—*The Physiological Effect of Snake-Bite.*

By JOSEPH JONES, M.D., New Orleans.

(*Quarterly Journal of Science*, January.)

Dr. Jones has made some interesting observations on the effects of snake-bite. He used the American snake called the copperhead, and subjected several dogs, at various times, to its bite. In some cases the dogs died, in others they recovered. In all cases, Dr. Jones observed carefully the microscopical condition of the blood, and in cases of death made post-mortem examinations. Dr.

Jones observes in one case: "The blood from the swollen infiltrated cellular structures of the head and nose, where the snake inflicted the severest bite, presented a peculiar appearance; thousands of small acicular crystals were mingled with the altered blood-corpuscles, and as the bloody serum and effused blood dried, the blood-corpuscles seemed to be transformed into crystalline masses shooting out into crystals of hæmatin (hæmato-crystallin?) in all directions. The bloodvessels of the brain were filled with gelatinous coagulable blood, which presented altered blood-corpuscles and acicular crystals." Dr. Halford, about two years since, figured and described in the *Quarterly Journal of Microscopical Science*, the microscopic appearance of the blood of a dog killed by snake-bite. He particularly drew attention to the enormous increase in the number of white corpuscles in the blood. Dr. Joseph Jones concludes that the special toxic effect of the poison of the snake is due to its destructive effects on the red blood-corpuscle. Mr. Frank Buckland, in a recent note on this subject in his highly interesting journal *Land and Water*, says that the snake's poison seems to "curdle" the blood. It may very well be questioned how far it is right to attribute this condition of the blood to the direct action of the snake's poison. Should we attribute the buffy coat of the blood of a fever patient to the direct action of the fever-poison, or the increase of white corpuscles after bloodletting to some specific poison in the lancet?

ART. 77.—*Morbus Saturninus (Lead Poisoning).*

By WILLIAM FRANK-SMITH, M.B. Lond., F. C. S., Lecturer on Medicine at the Sheffield School of Medicine.

(*The Lancet*, May 29.)

Among the file-cutters of Sheffield, Dr. Frank-Smith has noticed one or two points worthy of remark: (a) As to the mode in which the lead enters the system. (b) As to certain rarer symptoms of the disease. (c) As to the elimination of the *materies morbi*.

(a) *As to the mode of ingress.*—As is well known, in the file trade a small leaden anvil or bed, on which the file is held while being cut, is the source of the poison. The author has reason to believe that it is almost entirely through the skin of the hands that the lead penetrates. The file-cutters generally wear the nails long, especially the thumb nail of the left hand, which holds the chisel and is in constant contact with the lead. Behind these appendages a large quantity of black dirt accumulates. Dr. Frank-Smith collected some of this from several men, and had no difficulty in chemically detecting lead. Again: having heard of the use of sulphuretted baths, the author employed a solution of potassium sulphide, applied with lint and gutta-percha like a water-dressing. In several cases the skin of the hand became dyed with the lead sulphide. In several cases also in which this local treatment had been continued many weeks, it was very curious to observe that while the old nail was dyed black or deep brown, the new nail near the matrix had its natural white color.

(b) *As to certain symptoms.*—(1) Lead kidney: Dr. Frank-Smith has short notes of two cases in which a fugitive albuminuria was detected. In these cases palsy was the prevailing symptom. They were chronic cases with evidences of an unusually high degree of plumbic saturation. (2) Neuralgia: Dr. Frank-Smith has notes of ten cases of plumbic neuralgia. Of these, in seven the pain was confined to the left thumb and hand; in two the crural nerve and the patellar plexus were affected very severely; in one the pain was over the frontal nerve.

(c) *As to elimination.*—When the author commenced practice in Sheffield he employed the iodide of potassium as an eliminative, and while employing it made a somewhat remarkable observation, which has been since confirmed by Dr. Hilton Fagge. A man came under his care with severe lead palsy. On examining his mouth he was surprised to find the lead line absent; there was no trace of it, though he looked carefully with a good lens. The patient was placed under the iodide treatment—doses, ten grains three times a day. In the

course of a week or two little arches of black puncta were seen over the roots of the teeth, and in the course of a few more days the blue line was well marked, disappearing again before he left the hospital, about six weeks after his admission.

Dr. J. C. Hall has mentioned this case in his paper in the *St. George's Hospital Reports*. Dr. Hall, who has had very extensive experience in these cases, employs a mixture containing sulphuric acid and sulphate of magnesia; and after careful comparison of the results of the sulphuric and iodide treatment, Dr. Frank-Smith has now no doubt as to the superiority of the former.

The mixture which the author employs, and which acts with remarkable celerity and certainty, is as follows: Sulphate of quinine, sulphate of iron, of each one grain; strychnia, thirty-sixth of a grain; dilute sulphuric acid, five minims; sulphate of magnesia, one drachm; water, one ounce: three times a day.

ART. 78.—*The Ordeal Poison-nut of Madagascar.*

(*Quarterly Journal of Science*, January.)

Dr. Bennett, of Sydney, writes an account of this tree in the *Journal of Botany*. Specimens of it have been naturalized in New South Wales, and in the Botanical Gardens at Sydney there is a very fine tree of it, which somehow or other obtains a mysterious sort of respect from the visitors to the gardens, who, although they do not hesitate to gather from other flowers and shrubs, stand in awe of the Ordeal-tree. The flowers are very fragrant, of a crimson color, and appear in November and December. The plant belongs to the natural order *Apocynaceæ*, and its native name is *Tanghin*—whence *Tanghinia*. The fruit is of the size of a hen's egg, containing a hard stone or nut, the kernel of which is white, of a bitter taste, and has remarkable poisonous properties. The poison of the Ordeal-nut acts *directly* upon the heart and muscles. When used by the natives as a detector of crime, the kernel is pounded and administered to the supposed criminal. Frequently sickness is caused, and the accused then escapes. If not, the poison is rapidly absorbed, and death ensues. A difference of color is said to exist between those kernels which produce only vomiting and those which produce death; and the friends of an accused person will stand by and object to certain nuts being used. The officers are said to administer these two varieties in a partial way; but it is not very certain that they can really discriminate between the virulent and less active kernels. Dr. Bennett suggests that there might be two species of *Tanghinia* existing in Madagascar, differing in the intensity of their poisonous power. The milky juice of the *T. Manghas* is said to be used as a purgative, and according to Rumphius, the natives boil and eat the leaves mixed with other pot-herbs, which thus act as a gentle laxative. The bark is also used in Java and Amboyna as a familiar cathartic, the action of which is said to be very similar to that of senna. *Manghas* is the name given to the tree in its native country.

ART. 79.—*Antidote to Carbolic Acid.*

(*Medical Times and Gazette*, March 27.)

Messrs. Calvert wish to make known the fact that sweet oil or castor oil in large quantity is the best antidote to carbolic acid, when it has been swallowed in poisonous doses.

ART. 80.—*Detection of Strychnia in Poisoning Cases.*

By M. M. CLOETTA.

(*British Medical Journal*, February 27.)

To detect the presence of strychnine in cases of poisoning, M. Cloetta counsels the following treatment: Any albumen which may be present in the liquid is first removed, subacetate of lead added, and the liquid filtered; the

excess of lead is removed by sulphuretted hydrogen, another filtration made, and the filtrate evaporated to dryness. The residue thus obtained is left in contact with ammonia for twenty-four hours, then agitated with double its volume of chloroform, and the chloroformic solution evaporated; this residue is dissolved in two cubic centimetres of water containing pure nitric acid, the solution filtered, and to the filtrate a drop of solution of bichromate of potash added. At the end of a few days crystals of chromate of strychnine appear, in which the chemical characters of strychnine may be recognized. M. Cloetta affirms that by this process he has been enabled to prove the presence of one-twentieth grain of strychnine in 650 cubic centimetres of urine.

ART. 81.—A Case of Poisoning by Stramonium, and novel way resorted to to produce Vomiting.

By J. J. HILLARY, Uxbridge, Licentiate Medical Board.

(*Dominion Medical Journal*, November, 1868.)

The following case is related by Mr. Hillary :—

"On the evening of the 20th September I was sent for to see a man, J. P., aged forty, whom the messenger stated had taken a teacupful of herb-tea, made from an herb sent by a friend of his and recommended as a cure for asthma, to which he was subject. About five minutes after he had taken it he became 'wild, and didn't know any one.' When I got to the house (in about ten minutes) I found him seated in a chair, leaning forward on his knees, shivering, staring wildly, countenance bathed in perspiration, pupils largely dilated, talking vaguely, and perfectly unconscious of surrounding objects, pulse 90 and full, hands and arms convulsed every few moments, legs unable to support his body, and dragged after him when we tried to get him to walk.

"On examination the herb proved to be *datura stramonium*. The first thing to be done was an emetic. Mixed half a drachm sul. zinci in one ounce water, and tried to get him to swallow it, but he either could not or would not, although we held him and forced it into his mouth, holding his nose at the same time. As there was no stomach-pump to be got, I took a No. 12 gum elastic catheter, forced open his mouth, passed it down the œsophagus, and having ready a solution of sul. zinci, I took it into my mouth and squirted through the catheter into the stomach. In about ten minutes he vomited freely, throwing up a quantity of stuff smelling strongly of the 'herb-tea.' He remained in a state of stupor, with the convulsive movement of the arms, for about twelve hours, then fell asleep for six hours, and awoke sensible, but feeling 'very queer,' and complaining of his throat being sore and a difficulty in swallowing. His pupils continued dilated for several days, but when last I saw him he was quite recovered and very grateful."

ART. 82.—Case of Poisoning by Arsenic externally applied.

By THOMAS GRAHAM, M.D., Surgeon to the Infirmary, Paisley.

(*Glasgow Medical Journal*, November, 1868.)

Cases of poisoning by the external application of arsenic are very rarely brought under the cognizance of the public prosecutor. Having been engaged as a witness for the Crown in such a case, Dr. Graham is enabled to record the facts, which are of great importance in a medico-legal aspect :—

At the Autumn Circuit Court, in Glasgow, a man named Alexander Paterson, originally a gardener, then a shoemaker, who, for twenty years partially, and for the last eight years exclusively, has devoted his time to the cure of cancer, asthma, &c., was charged with the crime of culpable homicide, in as far as he had undertaken, "culpably and recklessly," to prescribe for and treat, medically or surgically, the now deceased Mrs. L., who was at the time suffering under chronic inflammation of the right breast, by applying to the breast, after blistering, an ointment containing arsenic, on various occasions between the

21st and 27th of May, so that a quantity of arsenic was absorbed into the system of the said Mrs. L., and she died on the 27th May in consequence, and was thus "culpably bereaved of life by the said Alexander Paterson." After trial, the jury found the prisoner guilty as libelled, but recommended him to the leniency of the court. He was sentenced to four months' imprisonment. The facts are these:—

Mrs. L., aged thirty-nine, married fifteen years, and mother of eight children, weaned her youngest child, aged about twenty-two months, in March last. Her constitution was debilitated by over-lactation. Immediately after weaning her child she had a "weed," accompanied by fixed pain and induration of the right breast. Poultices were applied for some weeks, and about the beginning of May two punctures with a lancet were made in the indurated part of the breast; a small quantity of bloody pus flowed from the punctures; poultices were continued; the induration was not diminished. The patient had been reading a description of cancer in some popular work on Domestic Medicine, and she became convinced that the pain she felt in her breast was the same as that described in the book as indicative of cancer. Her husband, who had heard of several persons having been cured of cancer by Alexander Paterson, called him in to see his wife. Paterson stated that the tumor was cancerous, and the case was committed to his care. The treatment was commenced by removing the cuticle from the indurated part of the breast by a blister, the raw surface was then dressed with an ointment, smeared upon a piece of calico of exactly the same size. The first application was on Thursday, the 21st of May, and was immediately followed by severe burning pain in the breast. Violent headache, thirst, sickness, and occasional retching; numbness in the arms and legs, sleeplessness and loss of appetite supervened in a short time. The ointment was applied daily till Monday, the 25th, when Paterson again saw the patient, examined the breast, and remarked that she was doing very well. He had given directions that should vomiting occur, or the pain in the breast become very severe, a poultice was to be applied. Shortly after his visit on the 25th, the pain in the breast became intolerable; faintishness and palpitation of the heart were complained of, and a poultice was applied to the breast over the ointment. The pain was alleviated, but the constitutional symptoms continued. Inflammatory action extended from the breast to the shoulder and arm. There was no fresh application on Tuesday the 26th. On the evening of that day patient complained of a severe pain in the belly, which was somewhat relieved by a sinapism. Next morning she said she never could survive such another night's suffering. On Wednesday, the 27th, the points of the sore not sloughing were smeared with ointment, applied by the finger, and the cloth, which had been applied on the 25th, was replaced. About two o'clock, afternoon, patient was seized with a kind of fit, with lividity of the face, foaming at the mouth, and moaning, to use the husband's expression, like "a half-felled cow." She continued unconscious for several minutes, and on regaining consciousness, said she had been in a queer place, that she felt, as it were, a dart go through her, that she then became insensible, and had no further recollection of what happened to her during the fit. A poultice was again applied, also over the ointment, and an enema administered. During the afternoon patient expressed herself as feeling much better than she had done since the commencement of the treatment, took more food, and with greater appetite than she had experienced for weeks, and altogether was very hopeful that her pains would soon be over, and her recovery certain. Between nine and ten o'clock the same evening she suddenly said, "There it is again," went off in a fit, and died immediately. Thirst had continued to increase during the whole course of the treatment. Palpitation of the heart had been persistent from the 25th. The bowels had been constipated.

Post mortem Appearances.—The left breast was large and flaccid; the right breast was larger and firmer, and the central portion indurated. When pressed, each breast emitted a quantity of thick yellowish milk. The right breast presented an oval-shaped excoriated surface above the nipple, measuring three and a half inches by three inches, ulcerated in several parts, and mostly dark and sloughy in appearance. The excoriated surface was partly covered by a piece of calico, smeared with pinkish ointment, and retained in position by strips of

adhesive plaster. On bisection, the substance under the excoriated surface was found intensely reddened to the depth of half an inch. The glandular structure above the nipple was indurated, and the meshes firm and fibrous; at the lower part was a small cavity containing glairy matter and pus cells.

The left lung was congested, there was effusion into the right pleural cavity, and the right lung was congested and oedematous. There was half an ounce of serous fluid in the pericardium. The right ventricle and auricle were filled by coagulated blood and a fibrinous clot. The left auricle and ventricle were empty. The liver was normal in size but friable, and attached by recent fibrinous bands to the hepatic flexure of the colon. The stomach contained an ounce of food, in a state of emulsion, mixed with mucus. The mucous membrane of the cardiac orifice was highly congested and discolored by extravasation of blood, and the discoloration extended in patches over the greater part of the larger curvature of the stomach. The duodenum contained digested food, and like the stomach presented numerous ecchymosed patches. The spleen was soft and friable. The kidneys and bladder were healthy. The brain, with the exception of a little sub-arachnoid effusion, was healthy.

On chemical analysis, arsenic was found in the liver, kidneys, and coats of the small intestine, and in the contents of the intestine, but not in the stomach, spleen, or blood. The dressing found attached to the breast, at the post-mortem examination, contained rather more than four and a half grains of arsenic. The ointment used contained forty-nine per cent., nearly half its weight of arsenic.

No trace of malignant disease was found in the affected mamma.

ART. 83.—*On Poisoning by Lobelia.*

By CHARLES MEYMOTT TIDY, M.B., M.S., Joint Lecturer on Chemistry at the London Hospital.

(*Medical Press and Circular*, February 3.)

There is no form of quackery, Dr. Tidy writes, more terrible and serious in its results than what is ordinarily termed "Coffinism." A name (ominous indeed!) derived from the founder of the system, a "Dr. Coffin," whose patients are to be found in no small numbers amongst our poorer classes, and whose income must be almost entirely derived from their hard-won earnings. But Coffinism deals with no innocent or harmless drugs; nor is it satisfied with any innocent or harmless doses. Starting with their pet, though absurd theory, that "Heat is life; the want of sufficient heat, disease; and cold is death," they administer, with no cautious or measured hand, monstrous doses of cayenne pepper and lobelia to restore *healthy action*, or, what is the same thing to them, *warmth*, to a diseased and broken-down system.

Within a very short time Dr. Tidy has had two cases of death come before him from, he believes, the absurd practices of these less practitioners.

The lobelia inflata (Indian tobacco) is a native of North America. Its poisonous qualities were first noticed by its effects on cattle that had accidentally eaten it. Many eminent physicians in the United States have from time to time studied its action. It has a somewhat nauseous and irritating smell, and a burning acrid taste, somewhat resembling tobacco. The dried herb, as imported, is of a yellowish green color, and is usually prepared by the Shaking Quakers of New Lebanon (Pareira). It contains a volatile oil, which, when distilled with water, imparts to the water the smell and acrid taste of the plant; also an acid which has been termed lobelic acid; and lastly, the active principle of the plant that has received the name of lobelina, but about which little is positively known.

Although it was not introduced into England prior to 1829, when Dr. Reece proposed it as a specific in asthma, it had become a favorite quack medicine in America as early as 1800. In the year 1809 a man of the name of Samuel Thompson was tried and convicted of poisoning a man with it. Now, lobelia is a poison, not in any way singular in this respect, that is frequently an antidote to itself. And very fortunate indeed is it for many patients that it proves so.

In giving it to animals, Dr. Tidy has found in many cases such violent vomiting produced that the poison must have been entirely got rid of, for they often recovered after most severe symptoms. In one case, however, in which he gave a small terrier a drachm of the powdered leaves and seeds which were retained, death resulted in about twenty-eight hours and a half.

So long, then, as vomiting is produced, all goes well, but when this becomes impossible, by reason perhaps of prostration of the system by disease or old age, or, the reverse of this, its administration to infants and very young children, then it is that vomiting is not induced, and, failing this, there is nothing left for the wretched patient but death.

ART. 84.—To Prevent Death by Chloroform.

(*Pacific Med. and Surg. Journ.*; and *Medical Record*, February 1.)

Experiments on inferior animals show that they may be restored from apparent death by chloroform by the continuous galvanic current, the negative pole being put in the mouth and the positive pole in the rectum. In some cases the animal was left for two minutes in a state of apparent death, and then restored.

ART. 85.—On a New and Simple Method of inducing Artificial Respiration in Cases of Asphyxia from Drowning, Strangulation, Chloroform, Poisonous Gases, &c.

By W. P. BAIN, M.D., Surgeon to the Poplar Hospital.

(*The Lancet*, December 19, 1868.)

The author speaks of the necessity of the best and simplest means being employed in the above cases immediately and on the spot, and rapidly runs over the several methods which have been adopted up to the present time for restoring animation. He mentions in terms of considerable praise the mode of compression and relaxation of the walls of the chest, especially by simply pressing down the sternum, showing that as much as 600 cubic inches of air may be exchanged in the lungs this way in a minute—a plan of which it has been the fashion to speak rather disparagingly. He explains Dr. Marshall Hall's mode, which, although a very inconvenient one, is also better than it has lately been represented to be.

To Dr. Silvester he gives high praise for his discovery of utilizing the muscles used in respiration, by drawing the arms over the head of the patient, thereby expanding the chest, and thus favoring inspiration. He finds fault with it, however, in its being a roundabout mode of accomplishing its purpose, and necessitating three separate movements.

The author then introduces a plan hitherto not known in this country, the invention of the celebrated Pacini, of Florence, which consists in placing the patient on his back on a table or bed, the operator having his abdomen against the head of the patient, placing his hands in the axillæ on the dorsal aspect, and then pulling the shoulders towards him with an upward movement at the same time. The shoulders are then relaxed, then the former movement, and so on alternately. In many cases operated on by this method the air makes a loud noise when it passes the larynx, as in snoring.

The author was so impressed with the excellence of this plan that he determined on his return from Italy to make experiments on it, as suggested to him by its illustrious inventor. He had not long, however, proceeded with these before he discovered two modes considerably superior, and throwing also somewhat in the shade the labors of Marshall Hall and Silvester. In experimenting on the dead subject he employed an India-rubber tube, one end of which was tied in the trachea, and the other communicated with a small spirometer, upon the principle of Hutchinson's, so that the passage of air to and fro, the lungs could be easily observed by means of a scale showing cubic inches. He found

that the simple process of raising the upper part of the thorax from the table by taking hold of the arms caused a considerable influx of air, varying with the angle that the arms made with the body. For instance, if the body were raised by the arms at an angle of 45° (towards the face), the inspiration would amount to, say twenty cubic inches. If the body were lifted by the arms in a vertical direction, the amount would be fifteen cubic inches, and if pulled up by the arms at an angle of 45° (towards the feet), the amount would be about ten cubic inches. But by the first of these modes a quantity of air considerably greater than by Hall's or Silvester's plan was generally obtained.

The best and most simple method, however, which the author has discovered is founded upon those of Silvester and Pacini. He simply places his fingers in the axillæ in their front aspect, with his thumbs over the outer ends of the clavicles, and draws, with a certain amount of power, the shoulders towards him. On relaxing his hold, the shoulders and chest return to their former position, and so on with alternate motion. In this case therefore there is only one movement to be effected instead of three, and he avoids the fatigue of having to bear the weight of the patient's arms as well, as is required by Dr. Silvester's method. It has the advantage also of being accomplished in a more rapid manner than any other plan. As far as the author's experiments have gone, the quantity of air inspired at each movement by this plan is about thirty to Dr. Silvester's twenty, and as the operation can be conducted with much greater rapidity, the author considers that at least twice the quantity of air can be inspired by this mode than by any other yet known; and he expresses a wish that a subject which is of such practical importance should be further investigated.

SECT. IV.—THERAPEUTICS.

ART. 86.—*General Principles of Neuro-Therapeutics.*

By JOHN CHAPMAN, M.D., M.R.C.P., Physician to the Farringdon Dispensary.

The following propositions, quoted from Dr. Chapman's work on *Diarrhœa and Cholera*, constitute a summary statement of the principles fully explained in his interesting and valuable *brochure on Sea-Sickness* :—

"1. That the chief function of the sympathetic nervous system consists in regulating the diameters of the bloodvessels throughout the body.

"2. That when the sympathetic ganglia are in a state of maximum hyperæmia the nervous effluence from them to the muscular coats of the arteries to which they are severally related stimulates them so excessively as to induce in them a condition of tonic spasm—a spasm so intense as to result in shutting off the blood altogether from a large proportion of the peripheral arteries.

"3. That when the sympathetic ganglia are in a state of maximum anæmia the nervous effluence from them to the muscular coats of the arteries to which they are severally related becomes so extremely feeble that a condition resembling paralysis is induced; the muscular coats of the arteries become consequently extremely relaxed; and as the blood flows in the direction of least resistance, the parts supplied by the arteries in question become suffused with blood to an excessive degree.

"4. That when the spinal cord is in a state of hyperæmia, cramps of the involuntary muscles surrounding the alimentary tube, cramps, or even convulsions of the voluntary muscles, an excess of glandular activity, and an excess of sensibility (hyperæsthesia) are likely to ensue.

"5. That every gland and glandular follicle in the body is under the control of one motor nerve (which I call the *positive motor*) emerging from the cerebro-spinal system, and distributed to its secreting cells in order to regulate its functional activity; and of another motor nerve (which I call the *negative*

motor) emerging from the sympathetic system, and distributed to its artery or arterial twig, in order to regulate its blood-supply.

"6. That in the same manner as glands are supplied with positive, as well as with negative motor nerves, so, there is reason to believe, every tissue of the body is thus supplied, and is thus placed and sustained in a state of elective affinity for the elements of the blood requisite for its nourishment and functions.

"7. That the sympathetic ganglia and the spinal cord can be rendered hyperæmic or anæmic, artificially, by means of heat, in the one case, and cold in the other, applied along the spine.

"8. That cold applied along the spine will subdue cramps, or excessive tension, of both voluntary and involuntary muscles, will lessen sensibility, will lessen secretion, and will increase the general circulation and bodily heat.

"9. That heat applied along the spine will (in some cases) induce cramps of both voluntary and involuntary muscles, will increase sensibility, will increase secretion, and will lessen the general circulation and bodily heat."

One of the most interesting proofs yet adduced of the power of the spinal ice-bag to increase the peripheral circulation is (Dr. Chapman states) that afforded in the shape of its indisputable effects on the eye. "I have been able," the author continues, "in several instances to improve vision to a very remarkable extent¹ by acting on the spine; and in October, 1864, having accidentally met at the Turkish bath Mr. Ernest Hart, whom I knew to be devoting himself especially to diseases of the eye, I communicated to him the result of my observations, and begged him to give the subject of the influence of cold and heat when applied to the cilio-spinal region on the circulation in the eye his special attention. He kindly promised to do so; and, in the *Lancet* of January 7th, 1865, he published a very remarkable case entitled, 'On a case of Amaurosis from Progressive Atrophy of the Optic Nerve with Epileptic Complications treated successfully by the application of Ice to the Spine.' The patient, a lady, thirty-three years of age, healthy until she was twenty, then began to suffer from frequent and sometimes intense headaches. When twenty-one she had three severe epileptic fits, two years after she had another, and gradually they became so frequent that at the time when the treatment in question began, 'the attacks recurred sometimes twice or thrice in a week, lasted for an hour or an hour and a half, and left her with a severe headache which prostrated her during the day.' Her sight gradually declined; 'and,' says Mr. Hart, 'when she came to me she could with difficulty read No. 10 of Giraud-Teulon's type. The ophthalmoscope showed palpable whiteness of the optic disks in both eyes. . . . The pupils were semi-dilated, and did not contract fully under ophthalmoscopic examination. . . . I could give no hope of cure. However, after a fortnight of temporizing without benefit I resolved to employ for her treatment the application of ice to the lower cervical and upper dorsal regions of the spine, which has been . . . recommended by Dr. John Chapman as a means of increasing the afflux of blood through the agency of the sympathetic.' The ice-bag was applied during five weeks, generally three times a day, and for about half an hour each time. She had only three fits during this period, and they were comparatively slight. The remainder of the account I give in Mr. Hart's own words. 'That which most nearly touches the subject of my paper, however, is the great improvement which has occurred in her visual power. At the beginning of the treatment she could read no type smaller than No. 10 of Giraud-Teulon: she now reads No. 4 with ease. The pupils are no longer dilated, although they act sluggishly. But a point of great interest is, that the disks are now of a tint which may be pronounced natural; they are palely roseate. . . . From a physiological point of view, this is remarkable as an example of visible regeneration, so to speak, of a nerve in process of wasting from disordered nutrition. Nothing else than the ophthalmoscope could have shown it; and nowhere but in the eye could it have been seen, for nowhere else is a living nerve subject to observation.'

¹ See especially the Case of Epilepsy, with Defective Vision, &c., described at page 58 of my pamphlet on *Functional Diseases of Women*.

ART. 87.—*Therapeutics of Pain.*

By W. A. HAMMOND, M.D.

(Canada Medical Journal, December, 1868.)

Professor William A. Hammond, of Bellevue Medical College, New York, in his lecture on the above-named subject, reported in the *New York Medical Gazette*, appreciates the value of various drugs as follows:—

1. In nervous headaches.

Oxide of zinc is of great value: ordinary dose two grs. three times a day after meals: maximum dose five grs. It is best given in form of pills.

Nux vomica is preferable to strychnia. The dose is $\frac{1}{4}$ gr. after meals. If the patient is chlorotic, it is well to combine a grain of ferri redact. and $\frac{1}{2}$ gr. sulph. of quinine.

Bismuth, in the form of subcarbonate, will often take the place of oxide of zinc. Dose, two grs. after each meal. Bismuth probably assists digestion more than any mineral tonic, and is of use when there is gastric disturbance.

Bromide of Potassium is serviceable when the nervous system has been irritated; when exhausted it does harm.

Bromide of Ammonium is similar to the brom. of potas. in its action; dose need not be so large. Dr. H. often uses both combined.

Opium and its preparations are rarely of value in this disorder. If used the hypodermic method is best.

Norcein was brought to the notice of the Academy of Medicine, Paris, a few years ago, by Claude Bernard. Dr. Hammond refers to the unfavorable notice of this article by Dr. Da Costa, but still thinks that given in large doses it has a decided hypnotic effect.

Phosphorus is very useful in all forms of nervous headache. It is difficult of administration, and leaves an unpleasant odor about the person. The phosphates do not produce the effects of phosphorus. The best results are obtained from phosphoric acid dilute, in doses of thirty minims largely diluted.

Arsenic, as a nerve tonic, stands next to zinc in value. Fowler's sol. has generally been used, but of late the arsenious acid has been given in doses of about $\frac{1}{16}$ th of a grain; particularly in cases of hallucination dependent on exhaustion.

As to the value of *galvanism* there are two very diverse opinions: one that it is useless; the other that it is nearly a panacea. The truth lies probably on the middle ground. We cannot act directly upon the brain, to any considerable extent, by the *induced* current or by reflex action. Dr. H. advises always the *constant current*; being careful to avoid too great intensity lest amaurosis be produced.

2. In the treatment of *neuralgia*.

Belladonna, although at one time overlauded, is a very efficient drug. Dr. Hammond has not used atropia often, as the dose is difficult to graduate. The use of belladonna is chiefly to change the habits of the system. You may begin with doses of $\frac{1}{4}$ th grain of the extract, and increase as necessary.

Hypophosphites are useful; may be given in doses of from ten to twenty grains. They act by setting free phosphorus in the stomach.

Hypodermic Injections of Morphia may be used during the paroxysm. In their use avoid the face; a good point is the inside of the arm.

Aconite is next in value. Simply rub the tincture upon the painful part until a pricking is felt. The action is often very powerful. Dr. H. once caused temporary paralysis of the arm in a lady by the too free application of the tincture.

Chloroform may be used externally, internally, or by inhalation not carried to insensibility. Repetition of inhalations may break up the paroxysm.

**ART. 88.—On the Diagnostic Value of the Ophthalmoscope in
"Tubercular" Meningitis.**

By T. CLIFFORD ALLBUTT, M.A., M.D., Cantab. &c., Physician to the
Leeds Infirmary.

(*The Lancet*, May 1.)

Dr. Allbutt thinks that the ophthalmoscope comes to our assistance, and gives us the same kind of help in detecting incipient or slight degrees of tubercular meningitis that the stethoscope gives us in detecting those incipient or slight degrees of ulcerative change in the lungs, which without it are beyond certain diagnosis. When a patient is seized with vomiting, headache, convulsions, and other symptoms of meningitis, and when at the same time, on examination with the ophthalmoscope, Dr. Allbutt finds congestion of the optic disk and retinal vessels, which is nearly always the case, then he has no hesitation in saying that the patient is suffering from meningitis at the base of the brain, and the autopsy proves the diagnosis to be correct.

**ART. 89.—On Auscultation of the Œsophagus applied to the Diagnosis
of the Affections of this Organ.**

By Dr. C. W. HAMBURGER.

(*Medizinische Jahrbücher*, xv. Bd. 11 Heft, 1868; *Gazette Hebdomadaire*,
No. 50, 1868.)

Dr. Hamburger wonders why the affections of the œsophagus have not been submitted to exploratory proceedings analogous to those which have acquired a remarkable precision in the diseases of the lungs, heart, and larynx. The diminished frequency of these affections would explain this neglect, if one were not aware how often the lesions of the œsophagus present at their commencement difficulties in diagnosis, without considering the lesions which may pass unperceived.

The actual elements of the diagnosis consist principally in pain, dysphagia, and exploration with sounds.

Pain gives but insufficient information for diagnostic purposes. Existing at times when there are no severe lesions of the œsophagus, and caused often by changes in the adjacent tissues, this symptom has merely a secondary value. Dysphagia, in addition to the very numerous independent causes of a lesion of the œsophagus, directs attention to this organ, but often leaves the diagnosis incomplete or doubtful.

Exploration with the sound affords more important characters, but if the instrument be rigid and the surgeon inexperienced, it is to be feared that the diagnosis will not be determined without the aid of some disaster; if the sound be too soft, the exploration may be rendered fruitless by existing diverticula; the results of the proceeding are difficult to interpret; in addition, but incomplete information will often be obtained.

Dr. Hamburger, in the first place, establishes the conditions of auscultation. In the neck the œsophagus is examined on the left side, behind the trachea and between the hyoid bone and the supra-clavicular region. In the chest the auscultation is made on the left side of the vertebral column from the first to the eighth dorsal vertebra, and immediately by the side of the spine. Auscultation is applied during the deglutition of a spoonful of water; alimentary boluses more or less solid are not serviceable.

In the normal condition of the œsophagus the signs afforded on auscultation are complex, and may be given in *résumé* as follows:—

The stethoscope being applied at the level of the hyoid bone during deglutition of a spoonful of fluid, a loud gurgling noise is heard; the water seems to pass forcibly into the ear of the observer. On auscultation of the œsophagus between

the cricoid cartilage and the eighth dorsal vertebra, deglutition is found to be accompanied with a noise analogous to that formed by a small fusiform body which is embraced by a contracted ring of œsophagus passing rapidly down the tube. The contractions of the œsophagus are made progressively and circularly upon the contained fluid, and produce a special bruit, an analysis of which allows one to mark the different periods of deglutition. The tone of this bruit is that of an easy gliding, and can be readily fixed in the memory. With some care the observer will succeed in distinguishing during deglutition, the tone or timbre, the form of the swallowed fluid bolus, the energy of the contractions of the œsophagus, the rapidity of the act of œsophageal deglutition, and the direction followed by the liquid mass. Each of these elements is modified when the œsophagus becomes the seat of lesions.

The tone may fail in part or completely; it will cease quickly in cases of rupture of the œsophagus or of a foreign body; a diverticulum or a contraction will produce an analogous effect.

Alterations in the quality of the tone or the timbre are numerous. Thus a rubbing sensation analogous to the pleural or pericardial rubbing will be experienced when the mucous membrane is no longer smooth, which may occur in cases of diphtheritic and croupy inflammation, in severe fevers, and exanthemata, when fibroid or polypoid formations exist, during an eruption of confluent small-pox, and with deep ulcers.

The tone becomes a blowing one with ruptures of the œsophagus, and sometimes also when a diverticulum exists with a narrow opening, or even during spasmodic contraction; the *bruit de froufrou* has often been observed on the detachment of a pseudo-membrane; the timbre is metallic in character when pneumothorax exists on the left side. The bruit of regurgitation is heard in œsophagism principally, and in cases of contraction, when the energy of the muscular tunic is maintained. The *bruit de râpe* is of great value, especially when it is perceived by auscultation; it indicates with the greatest precision the seat of the lesion. The other auditory characters present less interest, with the exception of the variations in the direction of the bruits, which depend upon regurgitation.

Regurgitation is produced in most cases under the following circumstances: The swallowed mass is arrested, but is then immediately thrown up and regurgitated, as in cases of foreign bodies, of œsophagism, and of commencing contraction; or, on the other hand, the period of arrest is longer and the swallowed mass is returned at a later period, varying in different cases from a few minutes to a whole day; a kind of rumination is then produced, and forms one of the best signs of œsophageal dilatation.

Regurgitation may be produced in another circumstance in which the stethoscopic signs alone enable one to make a ready diagnosis. This occurs when the food ascends along a part of the œsophagus, but does not reach the buccal cavity; regurgitation is then incomplete.

In a concluding section, Dr. Hamburger treats of the signs presented on auscultation by contraction of the œsophagus. These signs enable one to establish the diagnosis of three stages or three progressive degrees of contraction.

In the first stage, there is merely swelling of the mucous membrane, deglutition of the alimentary bolus is but slightly impaired; if fluid be swallowed, however, the small quantity of air which this forces towards the cardia during deglutition raises a portion of it and escapes upwards, producing at the same time one or more bubbles, which can be perceived only through auscultation; catheterism will not give any clear sign at this period.

With a more advanced degree, the second stage, the contraction is due to swelling of the mucous membrane, to the presence of a more or less abundant mucous exudation, and to the marked reflex contraction of the circular muscular fibres. At this stage, not only one or a few bubbles are heard, but a gurgling bruit. The dysphagia is now but slightly marked; it is the more important, however, to establish the diagnosis, since at this stage particularly one may apply with success external or general therapeutic means.

When the contraction is confirmed, and there is considerable diminution in the calibre, violent regurgitative bruits are produced, and finally some of the

more complex signs already mentioned. The diagnosis, it is true, can now be established by catheterism, and by noting the existence of dysphagia. But auscultation gives useful information concerning the form and the seat of a contraction and the existence of a dilatation, and also permits one to follow the results of the treatment.

ART. 90.—*Some of the Uses of Bismuth.*

By W. F. McNUTT, M.D.

(*California Medical Gazette*, January, 1869; and *New York Medical Journal*, April.)

In a paper on this subject, Dr. W. F. McNutt, of San Francisco, remarks: "In organic disease of the heart, where the liver becomes congested, and the secretion of bile suppressed, sulphuretted hydrogen is generated from the decomposition of albuminous food. Every physician is familiar with the train of nervous symptoms that such patients exhibit—sleeplessness, restlessness, palpitation, pains, &c., and flatulence of the bowels; and he also finds that the symptoms are aggravated by opium, while blue mass, &c., is also mostly useless. Believing that these nervous symptoms are due mostly to the poisonous effects of sulphuretted hydrogen, I administer bismuth, and almost always succeed in quieting the patient. November 22d I was called to see a lady with valvular disease of the heart (the mitral), in consequence of which the lungs and portal circulation were congested. She had violent palpitation, was very nervous and restless, had been unable to sleep for several nights; had pain in the side, headache, and bowels flatulent and constipated, but passages very offensive. I administered bismuth freely, and on the 24th she reported herself as having had the best night's sleep that she had enjoyed for weeks, though a variety of medicines had been administered to her. I have a number of similar cases in my note-book.

"I believe that bismuth not only destroys the sulphuretted hydrogen present in the bowels, but is an antiseptic to albuminous matters, preventing their putrid decomposition. That bismuth destroys the sulphuretted hydrogen present in the bowels is proved by the fact that, if administered for a few hours in considerable quantity, the flatulence disappears; and if a dose of oil is given, the evacuations are as black as tar, where the evacuations were natural or clay colored before the bismuth was given. It is the chemical action of the gas upon the bismuth which gives the evacuations their black color. But a small portion of bismuth, when given in powder, and in doses of from gr. 5 to gr. 20, is dissolved in the stomach and absorbed. The remainder passes undissolved into the bowels, and while it may have some local anæsthetic action on the bowels as on the stomach, it will be comparatively inert unless there be sulphuretted hydrogen present.

"Its action on the sulphuretted hydrogen is more particularly demonstrated when given for chronic diarrhœa. Some have attributed to bismuth astringent, tonic, and sedative properties, on account of their success with it in chronic diarrhœa. Others have given it for the same disease without the slightest benefit, and consequently have denied that it has astringent, or sedative, or tonic properties. While the fact is, that in cases of diarrhœa that are caused or kept up by the poisonous effect of sulphuretted hydrogen, I have given bismuth, combined with a few grains of Dover's powder, with more real benefit to the disease than any drug I could administer. Opium alone is useless, or worse. Charcoal, by absorbing the gas, has been, next to bismuth, the most beneficial."

ART. 91.—*Intellectual Work and the Temperature of the Head.*

By J. S. LOMBARD, M.D.

(Quarterly Journal of Science, January.)

Dr. J. S. Lombard, by means of an exceedingly delicate thermo-electric apparatus, has made some highly interesting experiments on the influence of cerebral activity on the temperature of the head. He finds: 1st. That in the state of cerebral repose (during night) the temperature of the head varies very rapidly and frequently. 2d. The changes are very small, scarcely reaching the hundredth of a degree centigrade. 3d. In proportion as the activity of the brain increases, the temperature is found to rise. 4th. Any cause attracting the attention (a sound, the sight of an object or a person) produces an elevation of temperature. 5th. Very active intellectual work produces a much more marked elevation of temperature than in the preceding cases. It does not, however, exceed a twentieth of a degree centigrade. 6th. An emotion, or reading aloud anything of great interest, causes an elevation of temperature. It is not the movement of the heart or of the muscles which, under these circumstances causes a rise in the temperature of the head. 7th. During very arduous intellectual work, the temperature of the limb falls even as much as a quarter or half a degree centigrade; in fact, no doubt (but only in part), owing to the immobility of the body. 8th. It is in the region of the occipital protuberance that the elevation of temperature had its chief seat in the preceding experiments.

It will be interesting to consider the bearing of these phenomena on the Conservation of Force. It is apparently clear that intellectual activity—thought—is a force totally distinct from, although associated with the mode of motion known as “heat,” for both, it appears, increase in activity simultaneously. More than this it were not prudent to say at present, but it appears that here we have the first approach to a better understanding between the relations of “mind and matter,” a subject upon which so much has been said speculatively, and so little done experimentally.

ART. 92.—*A Visit to some of the German Spas: Teplitz.*

By J. M'CALL ANDERSON, M.D., Professor of Practice of Medicine in Anderson's University.

(Glasgow Medical Journal, May.)

The most fashionable of all the watering-places of Germany, writes Dr. Anderson, is Teplitz, which is reached by rail from Dresden in four hours.

The following are the principal diseases which are benefited by a course of the baths of Teplitz:—

1. *Gout and Rheumatism, and other joint affections* in the chronic stage. Around the joints inflammatory exudations are apt to take place, which interfere with their mobility, and it is towards the removal of these exudations that the baths are specially directed. To this end the douche and mud baths are particularly valuable. It need hardly be said that the waters have very little effect in correcting the morbid condition of the blood in gout and rheumatism; hence it is a common practice for patients to have a course of other mineral waters, such as those of Marienbad, Carlsbad, or Vichy, which are directed against the blood disorder, prior to using the baths of Teplitz for the removal of the immobility which results from bygone attacks.

2. *Painful nerve affections*, especially those occurring in connection with rheumatism, are likewise often moderated or removed.

3. *Wounds and ulcers, and the like*, are frequently cured by the baths, especially those which are associated with well marked exudations, while they favor

in a remarkable manner the separation and removal of bony sequestra and foreign bodies.

4. *Certain forms of paralysis* are sometimes moderated or removed by them, especially the rheumatic forms and those which arise from the pressure of exudations upon the nerves, the result of previous inflammatory attacks.

The baths are contraindicated in all cases of acute disease, and they must be used with caution in persons of plethoric habit, or who are liable to apoplexy or congestions. As a rule, the cooler baths should be taken at first, and the warmer ones substituted at a later period of the course, if the former agree and are inoperative. For the same reason the douche and mud baths should not be taken from the commencement.

The season at Teplitz is from June to August inclusive, the height of the season being in August, at which time a higher price is charged for the baths. and, there is such a run upon them that they are occupied from morning till night and require to be engaged in advance.

The climate of Teplitz is mild, and the neighborhood interesting as well as beautiful.

ART. 93.—On the Administration of Food and Medicine by the Nose when they cannot be given by the Mouth.

By Dr. ANDERSON MOXEY, M.D., M.R.C.P.

(*The Lancet*, March 20.)

Dr. Moxey recommends that in certain cases, and especially in the cases of obstinate lunatics, this mode of giving food and physic be employed. Having the patient kept motionless by two or three assistants, with the head perfectly still, and the chin slightly elevated, he thus proceeds: Introducing the end of a small Wedgewood funnel gently into one of the nostrils, he pours the liquid slowly into it from a cream-jug or sauce-boat, pausing every now and then to let the patient take a full inspiration, and not allowing the fluid to accumulate in the funnel. A determined patient will generally be able, in spite of the reflex act of swallowing which ensues as the liquid trickles into the pharynx, to sputter a little of it out of his mouth. When this happens, Dr. Moxey pours the contents of the jug faster into the funnel, letting them accumulate in it so as to keep up a continuous series of acts of swallowing. In unusually troublesome cases he has also found it necessary to compress the other nostril, so as completely to obstruct all respiration through the nose. He considers that in all such cases a medical man should invariably administer the draught, as he alone can properly judge as to the extent to which it is necessary to interrupt nasal respiration, and of the number of acts of deglutition it is advisable to excite continuously.

ART. 94.—On the Use of *Ipecacuanha*.

By Dr. WEIGERSHEIM.

(*Schmid's Jahrbücher der gesammten Medicin*, August 27, 1868; and *British and Foreign Medico-Chirurgical Review*, April.)

Dr. Weigersheim has shown that *ipeacacuanha* root may be replaced by emetine, or even, in certain cases, by cold water, as employed in hydropathic practice. Warm water, drunk in moderate quantities, will often produce vomiting. Dr. Weigersheim also alludes to the fact that the smell of *ipeacacuanha* often excites nausea, and that when mixed with atmospheric air it causes, when it is breathed, remarkable oppression of the respiratory organs, such as hoarseness, sneezing, spasm of the glottis, and even spitting of blood and asthma. He therefore proposes the employment of *ipeacacuanha* in small doses. He mixed twelve centigrammes of the root with eight grammes of sugar (a centigramme is the hundredth part of a gramme, which is equivalent to about fifteen grains of English weight), and divides the powder into twelve parts, and orders one part to be taken in water every five minutes until vomiting ensues.

Nausea and even vomiting usually supervene after three or four powders are taken, but sometimes only after seven or twelve. If a powder is vomited immediately after being taken, another must be given at once. Dr. Weigersheim has applied this treatment with success as a preliminary remedy in those cases in which formerly every kind of emetic failed; and either by the continued use of the ipecacuanha or the subsequent administration of a full dose the desired result ensued. He also obtained favorable results from these small emetic doses in those cases of cholera in which an emetic was indicated.

ART. 95.—*On the Action of Tartar Emetic in small and long continued doses.*

By Dr. A. NÖBILING, of Munich.

(*Schmidt's Jahrbücher der gesammten Medicin*, November 4, 1868; and *British and Foreign Med.-Chirurgical Review*, April.)

The experiments made by Dr. Nöbiling on himself and on some of the lower animals relate not only to the operation of tartar emetic, but to that of each of its constituents, namely, tartaric acid, potash, and oxide of antimony. The experiments made on himself were by internal administration, and by injections into the subcutaneous areolar tissue and into the veins. The general results at which he arrived by these means were as follows: Tartar emetic in small doses, from a milligramme ($\frac{1}{1000}$ of 15 grains) upwards, gradually excites in healthy persons very disagreeable effects, as oppression and weight in the præcordia, giddiness in the head, irritation of mind, weakness of the limbs, feverish shivering, inclination to sleep, frequent, irregular, and full pulse, pale and sunken face, increased collection of mucus in the throat, and painful deglutition. After a longer use of the drug, there arise, together with loss of appetite and painful oppression in the stomach, short smarting pains in the bowels, frequent yawning, difficulty of breathing, and an unpleasant feeling of coldness on the skin of the trunk and on the extremities. The lower part of the body is extremely painful to the touch; the stools, which are at first normal, become gradually irregular, sometimes fluid, sometimes solid, but the urine is not much altered in its chemical characters. By a still longer use and gradually increasing doses of the tartar emetic all the phenomena are increased, the uneasiness is greater, the stools become thin and muco-bilious, the abdomen is swollen and very tender to the touch, the dulness of the hepatic region increased about a finger's breadth downwards, and this region is very painful on pressure, the heat of the skin is everywhere increased, and there is also itching. There is difficulty of swallowing and increased secretion of mucus. Dr. Nöbiling made a series of experiments on frogs, dogs, and rabbits, in order to ascertain the action of the separate constituents of tartar emetic, and for this purpose he compared the results obtained respectively from potassio-tartrate of antimony, ammonio-tartrate of antimony, and sodio-tartrate of antimony, and also from tartrate of potash and tartrate of soda. These experiments seem to prove that the potash acts upon the heart, causing depression of that organ, for it was found, among many other experiments, that while a small dose of potassio-tartrate of antimony caused death in a frog, the same dose of sodio-tartrate of antimony produced no effect. Dr. Nöbiling draws the following conclusions from his researches: 1. There are two independent modes of action in tartar emetic, one on the heart and the other on the intestinal canal. 2. The action of the potash is on the heart, and that of the antimony is on the intestines. 3. Potash has a direct paralyzing action upon the heart. 4. The tartaric acid is without any direct action upon the system. He goes on to observe that the effects on the heart and the pulse, and also on the liver, are due to the action of the potash, and that this is the active principle in causing death in fatal cases of poisoning by large doses of tartar emetic. He does not report favorably of the therapeutical employment of tartar emetic, which he thinks objectionable on account of the potash it contains, but he recommends the *ammonio tartrate of antimony* as an emetic, because in this, as in the sodio-tartrate of antimony, only the action of the antimony is secured and moreover this preparation is not decomposed in a watery solution.

ART. 96.—On the Alleged Narcotic Properties of Narceia.

By G. FRONMÜLLER, M.D., and S. KERSCH, M.D.

(Schmidt's Jahrbücher der gesammten Medicin, January 28 ; and British and Foreign Medico-Chirurgical Review, April.)

Although the narcotic effects of narceia have been lately announced by many authorities, as Claude Bernard, Debout, Béhier, Eulenberg, and Erlenmeyer, Dr. Frommüller denies to the alkaloid the existence of this property. Soon after its discovery by Pelletier, Magendie and Orfila declared it to be inert, according to their experiments on dogs. Leconte observed in dogs, after the administration of narceia, a troublesome cough, and tenderness of the hind legs, but no cerebral symptoms. Dr. Frommüller employed narceia twenty-two times, in order to procure sleep, care being taken that the alkaloid was pure. It was used nine times subcutaneously as hydrochlorate of narceia, and thirteen times internally as pure narceia. When used internally, and the dose was gradually raised to twenty grains, no narcotic effect was observed in any of the patients, and the breath, the pulse, the heat of the skin, the secretion of urine, and the state of the pupils were unaffected. Only in one case there was more sleep than usual, but no narcotism. After the two largest doses there was on the following morning, only slight giddiness. Dr. Frommüller thinks that even a drachm might be given without any result. The subcutaneous injections produced no effect. Experiments instituted by Dr. Kersch, in Prague, on the lower animals, gave a negative result, and thus they confirm the views of Dr. Frommüller. In none of the animals submitted to experiment was any trace of narcotism observed, either when the narceia was administered internally, or when it was injected into the pleural cavity.

ART. 97.—On the Action of Papaverin.

By K. B. HOFMANN, M.D.

(Schmidt's Jahrbücher der gesammten Medicin, December 28, 1868 ; and British and Foreign Medico-Chirurgical Review, April.)

Dr. Hofman has made some fresh investigations on papaverin, in consequence of its having been recommended as an agent in causing sleep and relaxing the muscles. He himself took the alkaloid in increasing doses up to six grains, and then he experienced a violent hicough, which ceased in ten minutes, and subsequently an uncomfortable feeling in the pit of the stomach, and great pain in the forehead after eating, but no sensation of weariness or lassitude. In a second experiment with six grains, all the above symptoms were absent, except the oppression at the stomach. The conclusions at which Dr. Hofmann arrived as the result of his experiments were as follows: 1. Papaverin, in reference to its physiological action, stands very low in the rank of narcotic alkaloids, since in the case of none of them used in medicine does a dose of six grains, taken at once, remain inert. 2. Papaverin, in healthy subjects, does not produce, in doses of six grains, the slightest hypnotic effect. 3. It does not relax the muscles, inasmuch as neither at first, nor several hours after it has been taken, does it produce weariness or lassitude, &c. 4. It is not a cumulative agent, and produces no after consequences, so that when taken several days in increasing doses it causes neither sleep nor muscular relaxation. It exerts no striking action on the mental powers analogous to that of other narcotics. 5. The diminution of the pulse is very slight in healthy subjects, namely, about four beats a minute. 6. The breathing and the animal heat are very little altered. 7. Papaverin does not confine the bowels, and does not materially affect the secretion or excretion of the urine, or the elimination of water and chloride of sodium. 8. Whether papaverin shares with opium and morphia the property, when taken in large doses, of disturbing digestion, must remain undecided till further experiments are made.

ART. 98.—*Carbolic Acid: its Doses and Medicinal Value.*

By HENRY WILLIAM FULLER, M.D. Cantab., Physician to St. George's Hospital.

(*British Medical Journal*, February 20.)

In dyspeptic cases—of the fermentative class—accompanied by the copious evolution of gas from the stomach and the discharge of fetid evacuations from the bowels, the effect of carbolic acid, Dr. Fuller writes, is often most satisfactory. Administered in six or eight-minim doses it stimulates and is extremely grateful to the stomach; it causes an immediate evacuation of flatus, and, by checking fermentation, it puts an end to the evolution of gas which forms the most distressing feature of many varieties of dyspepsia. With the exception of charcoal, Dr. Fuller knows of no remedy so useful in these cases, and it not unfrequently operates beneficially even when charcoal fails to relieve.

In typhoid or gastric fever, in which *a priori* beneficial results might have been expected from its employment, Dr. Fuller has been unable to observe any controlling influence.

In scarlatina, accompanied by sloughing throat, Dr. Fuller has employed it on one occasion, and fancied that it proved beneficial. Having regard to the action of the scarlatina poison on the mucous membrane of the stomach, it is not unlikely to prove active for good, and certainly deserves a trial.

In the form of spray, Dr. Fuller has used a solution varying in different cases from five to ten minims of the acid to an ounce of water for the purpose of inhalation. It has been employed in the early and advanced stage of phthisis, in so called laryngeal phthisis, in chronic bronchitis, in gangrene of the lung, and in various affections of the throat, including diphtheria. In the last named, it does not prove so useful as the pure solution of permanganate of potash administered in the same way, which sometimes appears to exercise a magical effect in clearing the throat of the membrane; but in all the other forms of complaint it exercises in many instances a decidedly beneficial influence. It lessens the irritability of the mucous surface and facilitates expectoration, and the patients aver that it affords relief. In gangrene of the lung, it removes the fetid odor, and otherwise appears to be productive of good.

The only disagreeable symptom which Dr. Fuller has observed to follow its employment in the form of spray, has been occasional faintness when the inhalation has been continued too long. The time at which this faintness occurs varies greatly in different cases. The patient should desist from inhaling as soon as the slightest discomfort arises. Dr. Fuller's impression, however, is, that this faintness is not induced by the action of the acid, but rather by the abnegation of atmospheric air which attends inhalation with Siegle's apparatus; for in every instance except one in which he has observed it, Siegle's steam-apparatus was being employed. He therefore prefers using the common hand-bellows, previously heating the solution of acid if the inhalation of cold spray seems likely to be prejudicial.

ART. 99.—*The Internal Use of Carbolic Acid.*

(*British Medical Journal*, February 13, 1869.)

At the London Hospital carbolic acid has been extensively employed by Dr. Andrew Clark. He believes it to be an agent of considerable therapeutic value, and we subjoin short notices of some of the chief affections in which he has seen it to be of positive and permanent use.

In vomiting, Dr. Clark considers that carbolic acid holds rather a better place than creosote, and is most successful where the vomiting is associated with fermentations and catarrh. When the stomach is very irritable it must be given in pill, and in obstinate cases combination with morphia will succeed when each drug by itself has been tried and has failed. Dr. Clark thinks that if it do not succeed in one-grain doses, it will not succeed at all.

In the small, but often long-continued hemorrhages issuing from gastric erosions, or from what has been called the hemorrhagic ulcer, one grain of carbolic acid dissolved, with the addition of a little spirit, in two ounces of water, and given every two or three hours, commonly checks the bleeding at the third dose, provided the stomach be kept at rest.

In chronic gastric catarrh, when bismuth, silver, and acids have failed, success is sometimes obtained from carbolic acid. It is, however, almost exclusively in atonic cases that good is done; and in them the trial of the acid should be preceded by three or four days' employment of bicarbonate of soda, with or without a little hydrocyanic acid. The carbolic acid, moreover, should be given only in quarter-grain doses, much diluted, and upon an empty stomach. If it do no sensible good in a fortnight, it is not likely to succeed by longer use. In any case, it does not seem advisable to continue its administration beyond four or five weeks. After that time it interferes with digestion, and induces headache and general nervous irritability.

In two cases of waterbrash, when other remedies had failed, cure was effected by carbolic acid in grain doses given with bismuth and opium. In flatulence, whether gastric or intestinal, and due to the decomposition either of food or of secretions, carbolic acid acts occasionally with the happiest effect. It should, for this purpose, be administered in grain doses, made into a pill with flour and mucilage. Employed for the relief of flatulence, carbolic acid is of course in most cases more a temporary expedient than a means of permanent cure. That can be effected only by a due regulation of the diet, by iodide of potassium and alkalies where the starchy, and by pepsine and acids where the albuminous digestion is at fault. In those rare cases in which the flatulence is due to excess of mucus, and the decomposition set agoing by its constituent ferment, carbolic acid may be employed legitimately with the object of cure.

In chronic bronchitis, and in bronchorrhoea, the employment of carbolic acid is considered by Dr. Clark to be of great value. Internally it may be administered several times a day, in half-grain doses dissolved in water. It may also be used locally in the form of inhalation or of spray. In the form of inhalation by adding twenty drops of the deliquesced acid to half a pint of boiling water, and inhaling the vapor; in the form of spray by dissolving a grain of carbolic acid in six ounces of water, making a spray by means of Siegle's vaporizer, and causing fifty inhalations to be taken twice or thrice a day.

In certain forms of phthisis in which there is much secretion either from the bronchial tubes or from cavities, and in which there is not very much irritation, inhalation of the vapor of carbolic acid, diluted with steam, produces much benefit. In no phthisical case, however, can the spray be used with safety. In fact, Dr. Clark says that all his trials of carbolic acid sprays in phthisis have been followed by bad results.

Oozing hemorrhages from the air passages are quickly checked by inhaling sprays of weak carbolic acid solutions; but as many such cases are associated with organic disease of the lungs, Dr. Clark considers that their use for this purpose is attended with considerable risk.

Dr. Clark has had little experience of the use of carbolic acid in fevers, and that little is either quite negative or unsatisfactory.

Of no use whatever in cholera, Dr. Clark thinks that carbolic acid alone, or in combination with other drugs, is of real use in the diarrhoeas which accompany the march of the epidemic.

In addition to the internal administration of the acid in the cases mentioned, we may add that in the form of injection, Dr. Clark has found the use of carbolic acid of the greatest advantage.

In discharges from the nose and throat, and particularly in ozæna and nasopalatine gland disease, he has employed the saturated watery solution with benefit. To secure its full curative effects, however, the parts should, in the first place, be irrigated by weak alkaline solutions, till all adherent mucus is dissolved, and then the naked mucous membrane will be more effectually acted upon by the carbolic acid water. The application of the fluid may be made in one of three ways: by means of Thudichum's admirable cistern-douche; by a special adaptation of Dr. Clark's spray-producer, which can be passed along

the floor of the nose and be made to scatter its spray over the whole surface of the pharynx and back of the palate; or, better than by either of these plans, when it can be done by drawing the solutions through the nostrils into the mouth. In a few obstinate cases still amenable to cure by carbolic acid, the strength of the solution requires to be increased, and then a little alcohol must be used as the dissolving medium. The glycerine solution is not suitable in these cases; and as a rule when the weak solution fails the strong does not succeed.

In mucous diarrhoea, and in what is termed mucous disease of the large bowels, carbolic acid is a most successful curative agent when properly employed. It is necessary, in the first place, to use injections of solutions of chlorate of potash (five grains to the ounce) in order to dissolve and remove adherent mucus. In the next place, it is necessary to use the solution of carbolic acid (one grain to six ounces) in such a position of the patient, with the hips raised, as will permit it to reach the transverse colon, and to be retained for some time in contact with the mucous membrane. In cases of chronic cystitis, Dr. Clark has succeeded in curing profuse mucous, and sometimes bloody discharges through irrigations of the bladder, with weak solutions of carbolic acid (one grain to six ounces) made by means of a double catheter.

ART. 100.—*Carbolic-Acid Treatment of Suppurating and Sloughing Wounds and Sores.*

In the practice of Mr. JOHN WOOD.

(*The Lancet*, December 12, 1868.)

The carbolic-acid treatment has been employed by Mr. Wood in a good number of cases at King's College Hospital, *pari passu* with the more simple forms of water-dressing, and with no dressing at all further than simple cleanliness of the neighboring parts. The carbolic acid has been used in various forms—namely, as a simple aqueous solution; as a solution in oil, as used in the French hospitals; and as mixture with putty, in the manner introduced by Professor Lister. The last-mentioned method has been employed especially in the treatment of compound fractures and of large chronic abscesses, with all the precautions against the admission of air, &c., recommended by Lister and Syme. A considerable proportion of cases have been attended with very satisfactory results; some have conformed in every respect with the theory of action promulgated by Professor Lister; but in a good number of instances, while the antiseptic action has uniformly been effective in utterly destroying putrefaction and fetor, yet in regard to its antipurulent properties such satisfactory results have not been obtained from the putty method. Suppuration has occurred in these cases to a considerable extent, though it is obviously difficult to say whether it would not have been more profuse in the same cases under another plan of treatment.

An observation having an important bearing upon the comparative value of the treatment has been made. When the treatment was first employed, the hygienic condition of the hospital was very good; and cases treated by the carbolic putty method, by simple water-dressing, and by no local application at all, did almost equally well. Many cases of chronic abscess, opened about the same time, and with the same precautions as to limited and valvular openings and the avoidance of rough handling or intermittent pressure, and with the same application of gentle, steady, and continued pressure by bandaging, got well equally rapidly, and with pretty much the same amount of consequent discharge. The same may also be said of the cases of compound fracture, in which the wound was limited and immediately covered up from the air by lint or collodion. Some time afterwards, in the autumnal months, the hospital air became vitiated; and notwithstanding the free use of carbolic acid in the waterclosets and wards, and in the water used for all purposes of ablution and disinfection, many of the cases treated with carbolic acid in exactly the same careful way resulted in free suppuration. One case of amputation of the thigh, followed by bedsore, treated

throughout by the carbolic putty method, succumbed at last, after a prolonged illness, from pyæmic pneumonia of the lobular variety. Another case of operation for urethral fistula and phymosis, also attacked by the same disease, was more fortunate. The patient was placed in a separate ward, the floor of which was kept always sprinkled with MacDougal's carbolic powder, a thorough draft of air kept up by means of a fire and open windows, and the sulphite of magnesia administered internally, with wine, brandy, quinine, and good diet. The local treatment throughout was by carbolic oil and putty. The patient, though of a debilitated constitution, and producing well-marked and copious rusty-colored and muco-purulent expectoration, made a good recovery. It admits, perhaps, of dispute what proportion of this result was due to the carbolic treatment; but most surgeons would incline to the belief that its local and atmospheric or respiratory application had the largest share in the beneficial agency. A case of lumbar, another of psoas abscess, and a third of chronic abscess of the thigh, occurring about this time, continued to exhibit tolerably profuse suppuration during the carbolic treatment. It was also observed that the neighborhood of the sore was apt to become affected with a dark-red, dusky inflammation, sometimes ending in separation of the cuticle. This was especially apt to follow the use of the carbolic oil, even when diluted to a strength considerably below that used in accordance with the recommendation of Professor Lister. It occurred also in cases where the carbolic putty was employed with every precaution to prevent its absolute contact with the skin, acting apparently by its vapor upon the surface. After a time, when granulations began to form in a sore, the effect of the carbolic acid or its vapor was decidedly to check, diminish, and even in some cases to destroy the filling up process, which the removal of the carbolic acid at once and repeatedly altered for the better. In such cases, however, the suppuration was also always held in abeyance; but promptly returned when the carbolic dressings were discontinued. As an injection in gonorrhœa the aqueous solution of carbolic acid has uniformly been found too irritating to the urethra to be long continued, in most cases producing a marked increase in the pain after micturition, and in the inflammatory redness and swelling about the meatus urinarius.

Since the beginning of the year, Mr. Wood has used extensively a double carbolate salt, which was first (he says) manufactured at his suggestion.¹ This salt is the sulpho-carbolate of zinc. It is a definite crystallizable compound composed of the sulphate of zinc and the carbolate of zinc. Its formula is, according to an analysis made by Professor Bloxam, of King's College: $C^{14}H^6 \cdot ZnO^2, 28O^2 + Aq$. Its most perfect crystalline form is right rhombic plates, of a flesh color; and its more common form, as supplied by the maker, is in agglomerated amorphous masses of a pinkish-white color. It is very soluble in water, and gives off no smell of carbolic acid whatever, either in the solid form or in solution. This salt, in aqueous solution of from three to six grains to the ounce, Mr. Wood has found of great service in all cases to which the use of carbolic acid is applicable as a dressing for wounds. It appears to combine all the astringent and detergent properties of the sulphate of zinc with the peculiar antiseptic and antipurulent properties of carbolic acid, and possesses the additional advantage of giving off the carbolic acid, in measure and gradually, by a slow decomposition of the salt, under the chemical influence of the discharges. In cases of gonorrhœa, Mr. Wood uses it from the very beginning of the symptoms as a solution of three grains to the ounce, frequently and copiously applied by means of a syringe. As the case advances or proves refractory, the strength of the injection is increased to five grains. The effect upon the purulent nature of the discharge is immediate and marked. At once it diminishes the quantity, and renders more transparent and mucus-like the quality of the flow. In recent cases, treated from the first and properly attended to, it rarely fails to complete the cure in a fortnight or three weeks. In cases which have been neglected previously to the adoption of this treatment, and in chronic cases of gleet, the

¹ Dr. Sansom, we believe, first brought the sulpho-carbolates under public notice at the Obstetrical Society on Dec. 4th, 1867.

duration of the treatment has been longer; and in some, accompanied by constitutional cachexia, or interrupted by inflammatory action in the neck of the bladder, it has while employed kept in check the discharge, but failed to suppress it entirely. In some the discharge has returned directly upon the remission of the injection, and upon its resumption has again nearly entirely ceased. Orchitis or bladder symptoms have not occurred in the cases in which it has been employed, in as great a proportion as in those treated by internal remedies or left without active treatment. As an application to herpetic and suppurating soft chancre it is equally effective as an antipurulent agent, and, combined with the administration of iodide of potassium, a speedy healing of the sore has followed. In these cases, and also those of hard chancre, Mr. Wood has employed the *strong carbolic acid* as an escharotic in the early stages, and approves highly of the results obtained. He also has used the strong undiluted acid with the same purpose as a subcutaneous injection in *navi materni*, with unvarying success. Its action in such cases is prompt and efficacious in destroying all the tissues with which it is brought into immediate contact. It is at the same time very manageable, and leaves a dry eschar *without any suppuration*, and which, when it falls off like a scab, leaves a cicatrized surface beneath. In efficacy, manageability, cleanliness, and rapidity of results, it is, in these cases, infinitely superior to any other escharotic that has been tried. Mr. Wood has found it efficacious also as an escharotic injection in cancerous nodules of the skin and subcutaneous structures, causing them to shrivel and dry up.

The solution of the sulpho-carbolate of zinc has been extensively used as a dressing to wounds and sores in the practice of Mr. Wood. It removes all odor as promptly as the carbolic lotion, while it is less irritating, more detergent, has no smell, and as effectively prevents all fungoid or sporular formations in moist dressings during hot weather as the carbolic acid itself.

ART. 101.—*Carbolic Acid in the Sickness of Pregnancy.*

By EDWARD GARRAWAY, Faversham, Kent.

(*British Medical Journal*, March 13.)

Carbolic acid is the only remedy which Mr. Garraway has ever found of any avail in pregnant sickness. Patients who have had it in one pregnancy, invariably ask for "that tar medicine" in the next. In other forms of sympathetic vomiting it has proved no less valuable. Mr. Garraway quotes the two most noteworthy cases he has met with:—

"Miss —, aged nineteen, a highly hysterical girl, the subject of pelvic abscess, had vomited every meal immediately after swallowing it for three years. Physic and physicians, of course, had been exhausted upon her. I gave a drop of carbolic acid three times a day. She retained this from the first. After ten doses had been taken —i. e., on the fourth day—a meal was kept down; and from this time she retained alternate meals. In a fortnight, two meals out of three stayed; but the unwonted presence of so much food in the stomach occasioned such distress, that I was induced to partially withdraw the remedy, and allow two out of four meals to be rejected. The carbolic acid, however, was gradually persevered with; and, in the course of a year, the stomach was able to bear and retain four meals a day.

"Mrs. —, at the eighth month of gestation, engaged me to attend her, and complained that she had been sick throughout her pregnancy. I declined prescribing, assuring her that the vomiting would cease immediately after delivery. However, it persisted as before; and she then informed me that for nine years she had never passed a day without vomiting, sometimes several times. This condition resulted from an attack of fever. I waited a fortnight after her accouchement, and then put her upon carbolic acid. She never once vomited again. The remedy was continued a fortnight, then gradually withdrawn."

Mr. Garraway gives drop-doses of the crystal, liquefied by heat, and diffused in half an ounce of thin mucilage, three times a day.

ART. 102.—*The Double Salts of Carbolic Acid.*

(British Medical Journal, March 13.)

At the last meeting of the Royal Medical and Chirurgical Society, an interesting paper was read by Dr. Sansom, on the properties of the double salts of carbolic acid. When the acid is used in an uncombined state, it is very caustic in large doses, and even when much diluted, it has a very irritant action. To obviate this, and yet retain the antiseptic properties of the acid, the author has prepared a series of definite compounds, in which sodium, zinc, or magnesium take the part of bases in conjunction with the sulphuric and carbolic acids. These salts are crystalline, readily soluble in water, have a distinct odor of carbolic acid; and, when treated with a few drops of a solution of perchloride of iron, give a dark-red color, due to the sulpho-carbolate of iron.

Mr. Crookes, in his paper in the *Cattle Plague Report*, has shown most conclusively that carbolic acid has the power of destroying living germs; it will prevent the growth of the yeast fungus; it will destroy, also (he believes), the germs in zymotic diseases. When the expired air of an animal suffering from the cattle-plague was passed through a tube which was loosely plugged with cotton-wool, the germs of the disease were entangled among the fibres. A plug so prepared was inserted under the skin of a healthy cow, and in a short time it suffered from the disease. If, however, the wool had been previously soaked in a solution of carbolic acid, no effect whatever seemed to result when a healthy animal was inoculated, as in the first case. From these experiments, it seemed to follow—1, That the actual poison which caused the disease was a material substance, which could be collected; and, 2, That the noxious properties of this substance could be destroyed by carbolic acid, or by substances possessing like properties. It naturally occurred to medical men that a similar method of treatment might be of avail in zymotic diseases, or in the treatment of external wounds. Yet these hopes have not been fulfilled; and another time we shall attempt to show why this method of treatment has not been of as much use as was expected in curing zymotic diseases.

Dr. Sansom has found that the sulpho-carbolate of soda is the best salt to be given, and has prescribed very large doses, without producing marked effects of any irritant action. When this salt is administered internally, carbolic acid cannot be chemically detected in the urine, but only the sulphate of soda. When a person has taken the salt for some time, the urine becomes of a greenish tint, and will keep for a much longer period than usual without decomposition.

The author by no means proved that as yet any real good had followed from using these salts; nor did he give any cases of fever in which the course of the disease was out short by the drug. In the discussion which ensued, the speakers had a vague idea that a better result had followed the use of the salt than when other remedies were given; but some, who had watched the action of the preparation in typhoid fever and pyæmia, and he carefully noted the course and duration of the disease, came to the conclusion that no benefit at all had resulted. Carbolic acid is no doubt most valuable in preventing disease; but whether, when the poison has once entered the system, it can then destroy it, is a question which can only be solved by experience. Our own observations would tend to make us by no means sanguine; but the treatment is one which should be fairly tried, and for this purpose the temperature of the diseases should be taken, as well as accurate notes of the cases, so as to see if these salts have any decided effect on the course of the disease.

ART. 103.—*Physiological Action of the Bromide of Potassium.*

By H. P. BOWDITCH, M.D.

(American Journal of the Medical Sciences, January.)

Our contemporary, the *Boston Med. and Surg. Journ.* (Oct. 22, 1868), contains an interesting paper, by Dr. H. P. Bowditch, on this subject, giving

the results of recent observations, and of some experiments made at the Massachusetts Medical School during the past spring by a class of students under the direction of Professor E. H. Clarke and Dr. R. Amory.

The author thinks that from these experiments and observations he may draw the following conclusions:—

1. The bromide of potassium is rapidly absorbed.
2. Though it appears quickly in the urine, it is upon the whole not very rapidly eliminated.
3. It is eliminated unchanged by the kidneys, the skin, and perhaps by the intestines.
4. It is sometimes decomposed in the system, and free bromine eliminated by the breath.
5. While passing into the system it acts as a local irritant on the surfaces through which it passes.
6. While in the system it acts as a vascular and nervous sedative.
7. While passing out of the system its primary effect is to diminish all the secretions, except perhaps the urine, but secondarily hypersecretion may be induced.

ART. 104.—Bromide of Potassium and Antimony in Puerperal Convulsions.

By T. N. SIMMONDS, M.D.

(*Medical Press and Circular*, February 24.)

Dr. T. N. Simmonds reports to the *Philadelphia Medical and Surgical Reporter* the history of a case of puerperal convulsions, in which the efficacy of these remedies was evident. A primipara, while in labor, with the head of the child in the inferior strait, was seized with a violent convulsion, which was followed by four others, with an interval of about fifteen minutes between each. Chloroform proving of no benefit, bromide of potassium was administered, beginning with doses of forty grains in combination with half a grain of antimony. In combination with the bromide one half grain of the antimony was given every hour and a half or two hours, until three grains of the antimony were taken. After the first dose there was a return of four paroxysms. The first occurred within an hour, the second in two hours, the third between three and four hours, and the fourth in eight hours. Their intensity and duration were also diminished in the order of their recurrence. Convalescence was rapid.

ART. 105.—Cases Illustrating the Use of the Bromide of Potassium in Drachm Doses.

By DANIEL G. BURR, M.D., Assistant Physician to the New York State Inebriate Asylum, Binghampton, N. Y.

(*The St. Louis Medical and Surgical Journal*, November, 1868.)

In the first five of the cases related by Dr. Burr, the operation of the bromide in quieting the nervousness and inducing sleep was most satisfactory. In two cases particularly, almost every dose of the bromide was followed by a nap, which at first was of short duration, but grew longer and longer, until they declared that "they thought that they could sleep all of the time if they should take the bromide regularly." In one case the patient said that he was not susceptible to the hypnotic effects of opium, and that it produced contrary effects so severe, that he could get no benefit from its use. Dr. Burr finds that the bromide displays its powers as a hypnotic to the best advantage in this class of patients, while in others, and of these there are only a few, it produces but little if any perceptible effect. Dr. Burr thinks that it is effective in lessening cerebral congestion when that congestion is in its incipient stages. When the congestion has lasted long enough to cause perversion of the faculties, as is

evinced by numerous and various hallucinations, he thinks that its effects are very slight, if at all perceptible. Whether its power as a hypnotic is secondary, as Dr. J. H. Bill (in an article on bromide of potassium in the *American Journal of the Medical Sciences* for July, 1868) states, Dr. Burr does not pretend to say. So far as he has observed, there have been no ill effects resulting from the use of the bromide in drachm doses. Sometimes after using it steadily for a week, a lack of co-ordinating power is observed in the lower extremities, but it soon passes off with the discontinuance of the medicine. Nearly every case treated at the York State Asylum with the bromide, is accompanied with a diarrhoea or looseness of the bowels, which in some cases, Dr. Burr states, may require a little after-treatment, but generally subsides with the discontinuance of the bromide. f

In a case of active delirium tremens, Dr. Burr thinks that he should place greater dependence upon opium than the bromide of potassium, while in the milder cases, or the so-called "Jim Jams," he thinks that there is no remedy that has equal effect with the bromide.

ART. 106.—On Chloracetic Acid as a Caustic.

By Dr. URNER, of Bonn.

(*Schmidt's Jahrbücher der gesammten Medicin*, November 25, 1868; and *British and Foreign Medico-Chirurgical Review*, April.)

The chloracetic acid is a powerful caustic, acting in some degree like nitric acid in this respect. Experiments made by Dr. Urner in practice are of a very encouraging character in respect to its use in such cases as warts, condylomata, lupus, &c. The pain caused by its application was but slight, and did not last long. The chloracetic acid belongs to the class of caustics which penetrate very deeply, and its operation is not inferior in intensity to that of fuming nitric acid. It is adapted for the burning of the smaller and larger neoplasms, as it can be applied both in a greater or less degree of concentration, and only on the spot required, and it does not affect the surrounding parts. Its application is not so powerful as that of many other caustics, whether stronger or weaker, and it excites no great inflammation of the parts: it leaves behind a moderate scurf, which is soon removed, leaving beneath it healthy granulations: the scars formed by it are moderately smooth, and subsequently undergo no great contraction: symptoms of poisoning by its use need not be feared; its operation can always be regulated, and small quantities are sufficient to procure an instantaneous and effectual cauterization. Nitrate of silver cauterizes less deeply than chloracetic acid, the cicatrization follows more slowly, and its application is more painful. Chloride of zinc and caustic potash cauterize more deeply than chloracetic acid, but their action is more extended, and attended with much greater pain. The best mode of applying the chloracetic acid is by means of a glass rod, or a glass or asbestos pencil.

ART. 107.—On the *Sanguinaria Canadensis*.

By VICTOR VAN DER ESPT, M.D.

(*Schmidt's Jahrbücher der gesammten Medicin*, Nov. 25, 1868; and *British and Foreign Medico-Chirurgical Review*, April.)

The *sanguinaria canadensis* has been employed for some time in various diseases. All parts of the plant possess a certain activity; but in America only the root is used. It contains a large amount of orange-colored resin, a red coloring matter which affords the so-called *sanguinarin*, and a small quantity of colorless fixed oil. This root, when dried, appears externally reddish-brown, of a spongy texture on fracture, the broken parts being at first orange-colored, and becoming brown in the air. The powder of the root is brownish-yellow, of a slightly narcotic smell, and permanently bitter taste; it excites sneezing.

In large doses it is a powerful irritant, and in small ones it causes in the mouth a sensation of heat, a bitter taste, and increased salivation; and in the stomach it causes irritation, a feeling of heat in the epigastrium, and improvement of the appetite and of digestion. It acts on the heart and vessels, increasing the circulation. In larger doses, as half a gramme to a gramme, it causes copious vomiting and a general feeling of weakness, and in larger doses till all the above-mentioned symptoms are increased, and there follow gastrodynia, general weakness, prostration, and finally death. Dr. Van der Espt has found that it acts locally as a stimulant to indolent ulcers, and that internally it is a useful remedy in general weakness, especially after exhausting diseases, when the stomach requires a stimulant. It may often be used with success in small and often-repeated doses in acute bronchitis and pneumonia, when its acts like tartar emetic, and in whooping-cough as an emetic. It is especially recommended by American physicians, as well as by Dr. Van der Espt, in diphtheria and croup, especially at the onset of the disease, and in the first instance as an emetic. It is also successfully employed as an emmenagogue.

ART. 108.—*On the Employment of the Neutral Acetate of Potash in Acute and Chronic Gastro-intestinal Discharges.*

By Dr. MAROTTE, Physician of the Hôpital de la Pitié.

(*Bulletin Général de Thérapeutique*, November 30, 1868.)

Disorder of the mucous membrane of the stomach and bowels may take place with or without fever, and may be either acute or chronic. Physiological causes or pathological conditions may influence its degree, its tenacity, or its duration, but do not at all change its nature. The presence of the products of secretion on the visible mucous membranes, as the tongue and the buccal cavity, their discharge by the stomach or the anus, are the characters of disorders of the mucous membranes, as of all the varieties of gastro-intestinal discharges. But in practice it is well to distinguish two varieties, one in which the products of secretion are in such small quantities that the excretion is reduced almost to a nullity, and occurs only at intervals more or less distant, sometimes voided by the stomach, but more frequently, although still rarely, by the anus. In the other variety the products of secretion are so abundant as to be evacuated almost daily, either by vomiting or by stool. It is in the first variety that the acetate of potash affords most relief, and under its use the clamminess of the mouth and the dryness of the tongue diminish; the stools are voided spontaneously from time to time, or are more easily excited by injections which were before inefficacious; the urine becomes less deep colored, and the feverish excitement, and especially the exacerbations, are lessened. Dr. Marotte's memoir on this subject concludes with the following propositions: The acetate of potash, frequently employed in the last two centuries, does not deserve the oblivion into which it has almost fallen; for without possessing the active properties of some other medicines, it is often of use, especially in gastro-intestinal discharges, as the author has proved by experience. It appears to possess a direct sedative action on the irritation of nutrition and secretion, which is the cause of these discharges. Its action does not seem to be the consequence of any appreciable phenomenon, and is manifest only by the diminution of all the morbid symptoms. All the forms and varieties of gastro-intestinal discharges are not equally benefited by its use, and it seems to be best adapted for the simple irritation of the secreting apparatus, without complications. It has a special action on the symptom vomiting, whether occurring in dyspeptic affections or in pregnancy; but its action is definitely exerted only upon the vomiting occurring in disorder of the mucous membranes (*état muqueux*). The dose necessary to be given in these cases should not, in the author's opinion, exceed 2 to 6 or even 8 grammes in twenty-four hours.

ART. 109.—On the Comparative Action of Preparations of Iron which are considered as Tonics.

By Dr. J. JEANNEL, of Bordeaux.

(*Gazette Hebdomadaire*, No. 10, 1869.)

1. All the soluble salts of iron, whatever the nature of their acid, may be absorbed by the stomach; those, however, which are very sapid and very astringent, as the sulphate and chloride, cannot be tolerated except in a very diluted condition; they are rather astringents than truly restorative tonics (Mialhe).

2. When assimilation of the steel and restoration of the blood corpuscles are the objects in view, we should prefer those preparations which are insoluble in water, and more or less readily soluble in the acids of the gastric juice (divided iron, the hydrate, the carbonate, &c.), or the slightly astringent soluble salts (the lactate, citrate, tartrate, pyrophosphate, &c.).

The bad odor following the ingestion of divided iron may be explained by the statement that the nascent hydrogen resulting from the decomposition of water by the metal in the presence of the gastric acids enters into combination with the sulphur of the constituent albuminoid materials of the organic fluids (Mialhe).

3. The preparations of iron which are insoluble in water, and soluble in the acids of the gastric juice, should be administered with food, because food determines the secretion of gastric juice (Mialhe).

4. Metallic iron, the sesquioxide, and the salts of the protoxide of iron, when dissolved in the gastric juice, pass into the condition of iron salts, as they find themselves in the presence of a liquid acid containing oxygen in solution (Mialhe).

5. The ferric salts are decomposed by alkaline solutions, and consequently by the intestinal juices; absorption of ferruginous preparations in the form of aqueous solutions cannot be carried on in the intestines except with the citrate, lactate, citro-ammoniacal pyrophosphate, and the potassio-tartrate, which, not being precipitated by alkalies, can be absorbed by the intestines in the form of an aqueous solution.

6. The oxides of iron in the condition of hydrates are soluble in small proportions in fatty masses with which they form emulsions, and are afterwards absorbed by the intestines.

7. There exists, then, a double way of absorption for salts of iron: firstly, the stomach, where they are absorbed directly in an acid aqueous solution, secondly, the intestine, where the precipitated oxide is dissolved, or at least partially so, in the fatty mass.

8. But as, on the one hand, the acidity of the gastric juice is very feeble, and, on the other, the solubility of the oxides of iron in the fatty mass of the intestines is very limited, it is useless to administer at one time strong doses of ferruginous preparations; all that cannot be dissolved by the gastric juice in the stomach, and by the fat in the intestines, must necessarily traverse uselessly the digestive tube, and act as a foreign body. The black color which is always communicated to the feces by ferruginous preparations converted into sulphate of iron, proves that a great part of the dose administered has not been absorbed.

9. With regard to the salts which are rendered stable by the citrate of ammonia, and to the potassio-tartrate of iron which is not precipitated by alkalies, these may be absorbed by the stomach and by the intestines. This fact explains why it is not indispensable to administer these preparations with food, and how they can be administered with utility in large doses.

10. The salts of iron which are not precipitated by alkalies, and the electro-negative element of which is not susceptible of destruction in the blood (the cyanide, ferro-cyanide, sulpho-cyanide of potassium and iron), resist all decom-

position in the organism; these are eliminated in the urine, and do not act as restorative tonics (Mialhe).

11. The organic acid salts which are combustible in the blood, and those which resist the decomposing action of alkalies, are not eliminated in the urine; these are assimilated, and contribute to the reconstruction of the blood corpuscles (the lactate, the citrate, rendered stable by citrate of ammonia, the potassio-tartrate).

12. It is impossible to explain the chemical transformation which the pyrophosphate of iron and soda and the citro-ammoniacal pyrophosphate of iron, both undoubted reconstituent agents, undergo in the blood.

13. In laboratory experiments all the preparations of iron prevent the digestion of fibrine by the gastric juice, with the single exception of the lactate; one will be led to the conclusion then that all the preparations of iron but the lactate are hurtful to digestion, but every-day clinical experience proves that great importance cannot rightly be attached to this result.

ART. 110.—*Lobelin in Rigid Os and Perineum.*

By GEORGE KILNER, M.D.

(*Chicago Medical Journal*, December, 1868; and *New York Medical Journal*, April, 1869.)

Dr. Kilner, of Sullivan, Illinois, strongly, recommends the use of lobelin, the active principle of the *lobelia inflata*, for the purpose of producing dilatation of the os uteri and perineum during labor. He uses it in the form of a rectal suppository, five grains of lobelin rubbed up with cocoa-butter q. s., and he states that fifteen or twenty minutes will usually suffice to bring about the desired effect. Notwithstanding that this is, perhaps, the most powerful relaxant in the materia medica, he claims that no danger need be apprehended from its use in this way, and supports his position by several concisely reported cases from his own practice.

ART. 111.—*Therapeutical Employment of Opium Smoking.*

By M. ARMAND.

(*Medical Times and Gazette*, December 19, 1868.)

At the last meeting of the Académie de Médecine, M. Armand, a distinguished army surgeon, read a paper on the "Therapeutical Employment of Opium-smoking." He is well acquainted with the practice as it prevails in the East, and in 1865 published in the *Gazette Médicale* several papers upon the subject; and he observes that Sydenham, who stated that he would rather abandon the profession than give up the use of opium, would certainly have utilized the Chinese opium-smoking had he been aware of it. M. Armand, during several years' trial, having found it an easy, inoffensive, and very efficacious mode of treating chronic and neuralgic affections, is anxious to bring it more prominently before the profession. The pipe employed is quite peculiar in its construction, in nowise resembling that used for tobacco, and M. Armand not only described, but exhibited it in action to the learned body which he was addressing. A mere buccal aspiration does not suffice, the object being to make as deep and prolonged an inspiration as possible, so as to charge the bronchi with the opium smoke. This is essential, in order to effect the combustion of the opium and to derive advantage from this. The smoking is an agreeable operation even on the first attempt, and if the inspiration has not been too forcible no coughing is produced. In his own personal trials, M. Armand has found that he can smoke ten grains without any ill effect, but beyond this quantity it induces heat of surface and troublesome dreams. Keeping within the moderate amount of from one to ten grains, a sedative and highly useful therapeutical action is procured, especially in chronic bronchitis and laryngitis, pertussis, asthma, nervous palpitation, angina pectoris, gastralgia, and

enteralgia. Next in order, come facial and dental and supra-orbital neuralgiæ and migraine, as also articular and muscular rheumatism; for it is to be noted that, besides its sedative action, opium-smoking carried to a high degree increases the temperature and induces diaphoresis. M. Armand has tried the effect of various opiated cigars, but finds that nothing but the vapor proceeding from the extract of opium burnt in the pipe produces the beneficial effects he has been adverting to.

ART. 112.—*Syrup of Iodide of Iron and its Preservation.*

(*Pharmaceutical Journal*, January.)

M. Jeannel, taking advantage of the power glucose possesses to reduce a persalt of iron at ordinary temperatures, recommends the following formula for the preparation of a solution of iodide of iron which shall remain unchanged by exposure to the air:—

Iodine	8.2 parts.
Iron filings	4.2 "
Distilled water	20.0 "
Honey	70.0 "
Tartaric acid	0.5 "

Mix the iodine, iron, and water in a flask, and when combination is complete, filter the green solution, and add the honey and tartaric acid. The product will contain 10 per cent. of iodide of iron. This preparation, after remaining exposed to the air in a phial simply closed with paper for two months, was still bright and free from color. It contained no free iodine or ferric salt.

M. Jeannel has observed that the addition of one five-thousandth part of tartaric acid to syrup of iodide of iron, which has become bad, renders it clear, and at the same time notably diminishes its inky taste.

ART. 113.—*Tobacco as an Hypnotic in a case of Chronic Wakefulness.*

By E. A. HERVEY, M.D., of Rossville, Staten Island, N. Y.

(*American Journal of the Medical Sciences*, January.)

Some years since Dr. Hervey was consulted by his brother, who had long been troubled with what appeared to be pleurodynia, attended with dull pain, somewhat increased at night. As opiates disagreed with him, always producing nausea and vomiting, or else restlessness and delirium, it was necessary to resort to some narcotic that would not give rise to such unpleasant consequences. After various unsuccessful experiments, Dr. Hervey determined to try tobacco, and advised him to smoke a cigar or pipe of Turkish or other mild tobacco previous to retiring at night. As he had never been in the habit of using tobacco in any form, and having, moreover, a great aversion to its use, the effect of a few puffs was very marked, inducing a sweet and dreamless sleep. It is important to add that, in addition to pleurodynia, the author's brother had for many years been affected with what is termed *insomnia*.

ART. 114.—*Tobacco Smoke in Intestinal Obstructions.*

(*Medical Press and Circular*.)

Dr. Olive, of the Marseilles Dispensary, has had recourse successfully to tobacco smoke injections in the case of a man, thirty-eight years of age, who, despite injections of purgatives, oil, and tobacco, and of cold applications, was given over to certain death. With the help of a bellows M. Olive introduced the tobacco smoke into the intestine; the tympanitis appeared to increase, but after a short time three dark fetid stools were passed, and the patient recovered at once.

ART. 115.—*Sulphurous Acid in the Treatment of Pyrosis.*

By HENRY LAWSON, M.D.

(The Practitioner, September, 1868.)

In every instance, Dr. Lawson asserts, in which sulphurous acid has been employed, it has, in a very short time, completely arrested the water-brash secretion. It checks the excessive secretion, stops the vomiting, and lessens the epigastric dragging pain so often complained of. Dr. Lawson considers, provisionally, that its good effects are due to the production of ozone and the destruction of vegetable germs.

The doses of the acid (B. P.) vary from m xxx to ʒj three times a day, shortly before meals. Bitter infusions may be employed as a vehicle, but plain distilled water is best.

ART. 116.—*On Veratrum Viride considered as a Therapeutical Agent.*

By M. OULMONT.

(Archives Générales de Médecine, No. 12, 1868.)

Veratrum viride is employed by M. Oulmont in the condition of resinous extract which is administered in one centigramme doses every hour until vomiting is produced. This occurs generally after the third dose, but sometimes not until the seventh or eighth.

Recognizing the elective action of veratrum viride on febrile phenomena, M. Oulmont has administered this agent in cases of acute pneumonia, acute articular rheumatism, pleurisy, and typhoid fever. The following conclusions give the results which have been obtained:—

Veratrum viride acts directly upon the fever by lowering the pulse and temperature. The pulse falls in the course of three or four hours by from 20 to 50 pulsations; the temperature sinks less rapidly; it descends for $1\frac{1}{2}$ or 2 degrees only, in the course of three or four days. The necessary dose for obtaining these results is from 3 to 7 centigrammes daily; the drug must be administered hourly until vomiting is produced.

The action of veratrum viride is transient, and is not well marked until the administration of the drug has been continued over two or three days. From this it follows that in order to obtain lasting effects, veratrum viride ought to be administered during two or three days.

By its action on fever, veratrum viride is a rational antiphlogistic means for combating pneumonia, acute articular rheumatism, and pleurisy.

It exerts very evidently a favorable action in pneumonia, the mean duration of which is reduced to six days and three-quarters; the mortality also seems to be less than that after other methods of treatment.

It exerts but an indirect action on the local condition by arresting the progress of the disease, confining it within its limits, and hastening resolution.

Its favorable action is less marked in articular rheumatism.

Its employment is contra-indicated in typhoid fever.

ART. 117.—*On the Value of the Nitrate of Lead in the Treatment of Sore Nipples.*

By J. G. WILSON, M.D., F.R.S.E., Professor of Midwifery in the Andersonian University, Physician-Accoucheur to the Glasgow Maternity Hospital.

(Glasgow Medical Journal, May.)

From ample experience in the use of this substance—which has now extended over three years—Dr. Wilson feels satisfied of its superiority to any other

* Memoir communicated to the Académie de Médecine, Oct. 27th, 1868.

agent which he has hitherto employed. He has found it in numerous instances to succeed, when tannin, gallic acid, zinc, benzoin, borax, &c., failed to produce the desired effect. He does not mean, however, to assert that it will always succeed, or that it is an infallible cure, but in his experience the cases were few and rare in which he was disappointed with the result of its employment. The mode in which Dr. Wilson uses the nitrate of lead is in solution, dissolved in glycerine or brandy. The following is the formula he generally employs:—

R Nitratis plumbi gr. x.
Glycerini ℥i. Solve.

This is applied freely to the affected nipple after suckling. Care must be taken to wash the nipple previous to the next application of the infant. This astringent lotion generally produces a sharp smarting pain for a short time, but this soon subsides. In superficial abrasions or excoriations especially, Dr. Wilson has found this application to have an excellent effect. In some cases of deeply fissured or ulcerated nipples, a stronger solution is occasionally required. In such instances, the lotion should be thoroughly applied, by means of a small hair pencil, to the whole of the fissured or ulcerated surface. The employment of the nitrate of lead may, if necessary, be combined with other modes of treatment. In severe cases, for example, the application of a teated shield, so as to protect the nipple while the treatment is being carried out, is sometimes advantageous. On several occasions, when treating cases of more than usual obstinacy, Dr. Wilson has occasionally applied the nitrate of silver, collodion, or a solution of gutta-percha, and found them useful adjuvants.

ART. 118.—*Sulphite of Soda and Sulphite of Ammonia in Intermittent Fever.*

By W. J. CHANDLER, M.D.

(*Medical Record*, March 1.)

The author reports twenty cases of intermittent fever treated in the service of Dr. Austin Flint, at Bellevue Hospital, with the sulphite of soda and the sulphite of ammonia.

The following are the conclusions which he draws from these cases:—

1st. That in a few cases the paroxysms of intermittent fever are relieved, and possibly arrested, by the sulphite of soda or sulphite of ammonia.

2d. That in the large majority of cases these remedies fail entirely to arrest the paroxysms, or to lessen either their severity or frequency.

3d. That these remedies require to be given in large doses for a length of time to effect any appreciable improvement.

4th. That, when given in doses sufficient to modify or arrest the paroxysms, they produce considerable irritation of the stomach and intestinal canal.

5th. That as remedies for intermittent fever they are in every respect vastly inferior to quinia.

ART. 119.—*The Oil of Yellow Sandal-Wood in the Treatment of Gonorrhœa.*

By H. W. A. BEACH, M.D.

[*Boston Med. and Surg. Journal*, November 5, 1868; and *New York Medical Journal*, April, 1869.]

In ordinary cases of gonorrhœa, Dr. Beach writes, when the treatment has been commenced early, five to seven days have sufficed for a cure; but if the patient has not been seen until the discharge and other symptoms were at their height, ten days or two weeks. In gleet, although the amount of discharge and inflammation might appear to correspond in different cases, the time occupied

in curing it has varied much. The shortest has been six days, and the longest about six weeks, but they have averaged three weeks unless complicated with stricture, when the relief has been only temporary. In ordinary cases, after the first series, an injection of tepid water has been used three times daily. Most of the cases related by Dr. Beach (over one hundred in number) have been treated with the oil of yellow sandal-wood; that of the white was not found to be effective; while that of the red has been successfully used in a few cases, but the cure has not been so rapid. The best and easiest method of administration is to drop the oil on sugar; for an ordinary case, ten drops three times daily, and for gleet, fifteen drops. Dr. Beach has given twenty drops three times daily without any bad effects.

ART. 120.—*Phenic Acid in Syphilis.*

By Dr. MINTEFORTE.

(*Giornale Italiano delle Malattie Venere*; and *New York Medical Journal*, April.)

Dr. Minteforte recommends the application to syphilitic ulcers of phenic acid in water, five parts to one hundred. Dr. Fidele de Fieri extols the deuto-phosphate of mercury, one grain a day, continued for two months, in tertiary syphilis.

ART. 121.—*Injections of Corrosive Sublimate for Constitutional Syphilis.*

(*Wochenblatt der k. k. Gesellschaft der Aerzte*, No. 49, 1868; and *British Medical Journal*, March 27.)

Dr. Grünfeld has recently given the results of extensive investigations made by Professor Sigmund on the treatment of constitutional syphilis by the subcutaneous injection of corrosive sublimate in solution. This method was applied in more than sixty cases of syphilis, in all of which the disease had been manifested by some exanthem. The injected solution consisted of one ounce of water containing four grains of corrosive sublimate. Of this from ten to fifteen minims—consequently, from one-twelfth to one-fifth of a grain of the salt—were used at one sitting. The usual quantity was fifteen minims. In every instance the injections were followed by a more or less intense burning at the seat of operation, which either quickly ceased, or gave way to a less severe smarting, which lasted for several days. An infiltration of the parts around the injected spot was also produced, and this persisted for several weeks. In some few cases, dermatitis, mummification, and suppuration resulted. According to Dr. Grünfeld, the parts of the body most fitted for these hypodermic injections are the sides of the trunk and the buttocks as high as the crest of the ilium; the parts least fitted are the extremities, particularly the surfaces of flexors. The general dispersion of these small quantities of corrosive sublimate throughout the organism was proved by the frequent appearance of stomatitis, in several cases after four or five injections; and by the presence of mercury in the urine. The statistics of sixty cases of syphilis treated in this manner furnished several interesting results. The smallest quantity of the salt by which a cure was attained was one grain and three-quarters; the largest quantity was six grains and a half. The smallest number of injections was thirteen; the greatest number, forty-four. The maculous syphilides disappeared after an average number of eight injections; the maculo-papular eruptions, after fifteen injections; and psoriasis, after twenty-five. Dr. Grünfeld has derived from the above investigations the following general conclusions. 1. Subcutaneous injections of corrosive sublimate, applied in cases of constitutional syphilis, furnish favorable results. 2. They have the advantage of perfect precision both in the dose of the agent and in its application. 3. The facility of execution and the slight inconvenience to the patient are important advantages; whilst, on the other

hand, the pain, the inflammation of the integument, and the suppuration, constitute a great disadvantage to this method of cure.

ART. 122.—On the External Use of Nitrate of Silver in Orchitis.

By E. NOBLE SMITH, Senior House-Surgeon to St. Mary's Hospital.

(*British Medical Journal*, January 30.)

Mr. Smith uses for the first few days evaporating lotions, and gives a purge; he then applies with a brush a solution of nitrate of silver of the strength of one drachm of the salt to an ounce of distilled water, to the surface of the scrotum over the inflamed testicle. In all cases he has found, the following day, great relief to be experienced, and in the majority the pain to have entirely ceased; but the greater part of the swelling and hardness remained; these symptoms are removed subsequently, by attending to the general health, using lotions, and afterwards mercurial ointment—the patient all the while being able to continue his occupation, even when it is laborious. Mr. Smith has generally found one application sufficient; but if there be a slight return of pain, he uses the solution again. Every case which he has treated with nitrate of silver has ended most satisfactorily. The originator of this plan of treatment is Mr. Furneaux Jordan.

ART. 123.—Nitrate of Silver in the Treatment of Uterine Polypi.

By M. M. EATON, M.D.

(*Medical Press and Circular*, February 24.)

Dr. M. M. Eaton (*Chicago Med. Examiner*) gives his experience in the use of the nitrate of silver in a case of uterine polypi which he treated successfully. The patient was forty-six years old, of a nervous temperament, anæmic, and emaciated. A digital examination revealed two small polypi attached by a long pedicle to the margin of the os uteri. These were soon discharged spontaneously, as she was free from hemorrhage for some months. An examination about a year after revealed the uterus enlarged, and a considerable flow of blood mixed with pus. A sound producing an alarming hemorrhage, a sponge tent was introduced and the os freely dilated. The finger being easily passed in the neck of the uterus, the whole surface was found thickly studded with polypi, from the size of a grain of wheat to a hickory nut. To these the solid stick of nitrate of silver was applied, and the sponge tent reintroduced, to act as a tampon. On removing the tent next day, several small polypi came away, and the nitrate of silver was again freely used and the os left open. On the fourth day of the use of the caustic all hemorrhage had ceased, and the tumors in the neck were all found to be detached and discharged. The uterus was then syringed with tepid water, and caustic applied to the suppurating spots where the pedicles had been removed, at the same time giving tonics and good food. This treatment was continued ten days, when she began to flow again very freely, and an examination revealed two large tumors in the cavity of the womb about the size of an orange. Ergot was given to cause contraction of the womb and descent of the tumors, and nitrate of silver was applied locally. By this means the hemorrhage was controlled, but the caustic was applied for about ten days, when by forceps they were removed and the uterus left empty though enlarged. By tonics and generous diet the patient entirely recovered and has had no return of the polypi.

ART. 124.—On the Use of Coffee in Strangulated Hernia.

(*Medical Times and Gazette*, January 2.)

Dr. Marchand, in an elaborate article on the therapeutic action of coffee, has collected a sufficient number of cases of strangulated hernia in which this

¹ Article "Café" in vol. vi. of the *Nouveau Dictionnaire de Médecine et Chirurgie*. 1867. Paris: Baillière. London: Baillière and Williams and Norgate.

simple remedy has proved successful, to warrant us in recommending its further trial. It appears that in the Havana coffee has from time immemorial been employed for the reduction of hernias. A French surgeon, Durand (de Batignolles), when residing there, saw it several times applied with success, and on his return home in 1857, he tried the remedy in France. A hernia of thirteen years' standing became strangulated, and all ordinary means, as the taxis, ice, draughts containing belladonna, &c., proved ineffectual; an operation was decided on, when Mr. Durand declared that he knew a sovereign remedy, when he begged to be allowed to try. His offer being accepted, he ordered 250 grammes (about half a pound) of powdered roasted coffee to be added to twelve cupfuls of boiling water, and of this a cup was to be taken every quarter of an hour till eight cups were taken, after which half an hour was to elapse between each dose. After the fifth cup the patient felt gurgling in the tumor, and the ninth cup was followed by the spontaneous reduction of the tumor. This case was published by Triger in the *Gaz. des Hôpit.* for May, 1857, and, as might be expected, not only excited *un vif étonnement*, but led to further trials. In the following year (1858) Meyer reported the case of a man, aged sixty-two, in whom there was spontaneous reduction of hernia after the sixth cup; Czernicki reported a similar case which yielded to the fourth cup; and Barasent described the case of a woman to whom, after twenty-four hours' vomiting, he gave coffee, and whose hernia yielded to the fourth cup.

In 1859 Rouzier-Joly, of Clermont-l'Hérault, published two cases in which he combined the coffee treatment with the local application of belladonna ointment. Although there was intestinal hemorrhage in both these cases, from, as he thinks, the use of too large doses, he adds that we should not, on account of such accidents, renounce a remedy which is "as active as it is successful." In the same year we are told that "Sammert en Angleterre" reported another successful case. We suspect that some evil has befallen our compatriot's name in the hands of the French author.

In 1860 Paultrier, and in 1861 Lamare-Piquot (of Honfleur) and Cellarius, adduced additional evidence of the value of this remedy; but the two last-named writers differ as to its mode of action. The former holds that it acts by occasioning *decongestion* of the strangulated part of the intestine, while the latter thinks that it acts by exciting the contraction of the intestinal fibres, which thus gradually liberates the strangulated portion.

In 1864 Lamare-Piquot published his *Etudes Expérimentales de Médecine et de Chirurgie Pratiques: De l'Action Dynamique du Café et de son Emploi dans les Hernies Etranglées*, and this, so far as we know, is the latest work or memoir on the subject. If the above cases are worthy of credit, which there is no reason to doubt, surely coffee deserves a further trial in strangulated hernia before an operation is resorted to.

ART. 125.—On the Therapeutical Value of the Peroxide of Hydrogen.

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

(*Medical Times and Gazette*, December, 19, 1868.)

The solution of the peroxide of hydrogen, Dr. Richardson says, may be fairly considered a medicine which promotes glandular secretion generally, quickens the action of iron, and which, to a certain extent, represents mercury and iodine as a specific remedy for syphilis. Problematically it may be considered as having an influence on nervous function, preventing or reducing overaction. It deserves on this ground extended trial in epilepsy. It is useful as a means of relief in dyspnoea in cases where there is great destruction of the lung and deficient oxidation; but whether its effect is due to the direct addition of oxygen to the blood, or to a sedative action on the nervous centres, or to the promotion of secretion from the liver and kidneys and the removal of temporary congestion, is not known.

Mode of Administration—Dose.—The solution of the peroxide containing ten volumes of oxygen is the best form for medicinal use; a trace of hydro-

chloric acid in the solution is of advantage, as the acid helps to retain the oxygen. Dr. Richardson prefers always to prescribe the solution simply with distilled water, for although there are many medicinal substances with which it is compatible if they are chemically pure, it is best not to run the chance of displacement of the oxygen by admixture.¹ The ordinary dose for an adult is from one drachm to four, but this may be gradually increased to six drachms or even an ounce. A free quantity of water should always be mixed with the solution when it is to be taken; if too concentrate it leaves a caustic metallic taste in the throat, and causes eructation.

ART. 126.—*The Hypophosphites in the Toothache of Pregnancy.*

By W. H. STERLING, M.D., of Burlington, N. J.

(*American Journal of the Medical Sciences*, January.)

The following case is related by Dr. Sterling.

"A lady under my care, in her first pregnancy, suffered most severely from toothache and facial neuralgia consequent upon the rapid decay of her teeth, which had previous to this event been very good, been kept with scrupulous care, and had not for years required any attention from the dentist, until about the fourth month from pregnancy, when they began to decay with great rapidity, so that in the course of a month seven were sufficiently decayed to need filling, and the neuralgic pain attendant upon their condition was such as seriously to affect her health.

"The ordinary remedies having been used with but merely momentary relief, it occurred to me as her organization was highly nervous, and nature, with wise provision, ever takes care to supply the foetus with proper and ample nutrition, even at the expense of the mother—that perhaps the bone and nerve-forming elements in her system were not sufficient to meet the wants of both mother and child, and hence the failure to provide for the molecular changes in the teeth, the material being used for the bony structure of the rapidly growing foetus. Acting upon this theory, I prescribed the hypophosphites of lime, soda, and potassa, together with the hypophosphite of manganese (having previously given iron), in two grain doses each, three times daily, in the form of the glycerole. The relief was immediate and permanent, the pain entirely removed, and the decay of her teeth was arrested, and her general health was very much improved with the renewal of her physical strength and mental vigor."

ART. 127.—*Papaverin in Mental Affections.*

By Drs. LEIDESDORF and BRESLAUER.

(*Vierteljahrsschrift für Psychiatrie*, 1868; and *British Medical Journal*, March 27.)

The following conclusions have been derived by Dr. Leidesdorf and Dr. Breslau from investigations made into the sedative and soporific action of papaverin on lunatics. 1. Papaverin acts upon man as a soporific. 2. It lowers the muscular power, and for this reason is beneficial in mania. 3. It diminishes the frequency of the pulse, both in cases where this depends upon violent muscular action, and in melancholic subjects who keep quiet. 4. The sedative action of papaverin is not preceded by a stage of excitement. 5. It does not produce, whether applied subcutaneously or internally, any vertigo or cerebral

¹ To oblige Dr. Richardson, Mr. Robbins, of Oxford-street, who has for a long time made the peroxide of hydrogen, tested the compatibility and incompatibility of the peroxide solution with other medicines. He reports it as incompatible with all vegetable tinctures, and with the citrates and tartrates of the alkalies and of iron. With hydrocyanic acid it forms in a few days beautiful crystals of oxamide. With sulphate, chloride, and nitrate salts, decomposition is slow; but on the whole it is best in every case to prescribe the solution direct—i.e., without admixture.

disturbance; it does not cause constipation, but in many cases has a contrary action. 6. The subcutaneous administration of hydrochlorate of papaverin does not cause any prejudicial action at the seat of injection, or in the neighboring parts. 7. The action of papaverin is as a rule manifested slowly, from four to seven hours, in most cases, after the injection; and its power is not quite spent until after from twenty-four to forty-eight hours. 8. Papaverin acts effectually in cases where opium and morphia, even in large doses, have been administered without effect. 9. A toleration of this remedy does not take place early, and an increase in the dose is not required even after a prolonged use. 10. Papaverin acts as a palliative in cases of mental excitement, mania, and loss of sleep; on the mental affection, or rather on the morbid processes on which this depends, it exerts no direct perceptible influence. 11. The improvement in the nutrition of the patients, which takes place in many instances after a long-continued use of papaverin, depends upon the greater tranquillity and the restoration of sleep.

ART. 128.—*Muriate of Lime in Chorea.*

(*Gazetta Med. Lombard.*, January 16.)

Dr. Rodolfi says that, with ample opportunity of treating chorea at the Brescia Hospital, and after trial of the great variety of substances recommended for this purpose, he has come to the conclusion that the best of these is the muriate of lime, preceding its employment by a purgative, composed of castor oil, calomel, and santonine. When no cerebral hyperæmia is present he then begins with the muriate, giving from seven to fifteen grains in the twenty-four hours. Improvement usually follows after the first day, and the cure is completed in from a week to a fortnight. An addition of seven centigrammes per diem of the extract of belladonna augments the efficacy of the muriate.

ART. 129.—*Antigalactic Properties of Belladonna.*

(*The Medical Record*, October 1, 1868.)

Dr. D. W. Stormont, of Topeka, Kansas (*Leavenworth Medical Herald*), mentions two cases of mammary abscess, in both of which the secretion of milk was stopped by the application of belladonna (ext. belladonnæ ʒij, aquæ f ʒij), painted over the breast. The lacteal secretion may be restrained, or entirely dried up, at the option of the physician, in one breast, without producing much effect in the other. Hence he considers it invaluable in mammary abscess, both as a prophylactic and as a curative agent. The patient should be cautioned against nursing the child from the breast to which the belladonna has been applied.

ART. 130.—*The Theory of the Dissolution of Calomel in the Organism.*

By M. JEANNEL.

(*Journal de Médecine de Bordeaux*, Février, 1869; and *Gazette Hebdomadaire*, No. 12, 1869.)

According to the theory of Mialhe, which hitherto has been generally admitted, calomel, in the presence of the alkaline chlorides dissolved in the fluids of the organism, is gradually transformed into soluble bichloride of mercury, which is readily absorbed. M. Jeannel holds that this theory is insufficient, and gives the following views upon this subject:—

The alkaline carbonates are the chief decomposing agents of calomel; in the presence of alkaline fluids fatty bodies dissolve the oxide of mercury derived from the decomposition of calomel; the alkaline chlorides, even in concentrated solutions, cause but a comparatively insignificant decomposition of calomel.

If it be true, as has been indicated by Mialhe, that the chloride of mercury, under the influence of alkaline chlorides and at the temperature of the organism,

always furnishes a more or less considerable quantity of corrosive sublimate, it would still be erroneous to hold with him that it is to this partial transformation that calomel owes its medicinal properties. In reality, a minute portion of administered calomel may be dissolved in the stomach in the presence of acids containing sea salt, but the principal and most considerable decomposition of the mercurial salt is certainly due to the contact of alkaline intestinal fluids. Next intervene fatty bodies. A long series of experiments has demonstrated to M. Jeannel that in the mixed fluids composed of water, an alkaline bicarbonate, and some fatty oil, a very notable proportion of oxide of mercury derived from the decomposed calomel, passes in a state of dissolution into the fatty mass; this oxide then loses the energy of its chemical affinities, and may become emulsionized and absorbed without producing any local irritation. This theory explains how the action of the calomel may be slow and generally inoffensive. This action is almost null whilst calomel remains in the stomach in contact with acid and slightly chlorinated fluids; as soon as the medicinal agent has passed into the intestines, where the presence of an alkaline fluid may give rise to the formation of bichloride, its action will become pronounced, but then the albumen and the fatty mass at once intervene, and weaken or entirely prevent the irritating action of the soluble mercurial salt, and of the oxide resulting from the decomposition of the calomel. The mercury is absorbed in the form of an albuminate of a fatty salt.

ART. 131.—Report of the Edinburgh Committee on the Action of Mercury, Podophylline, and Taraxacum on the Biliary Secretion.

By JOHN BENNETT, M.D., F.R.S.E., Convener and Reporter.

(*British Medical Journal*, May 8.)

The steps of the inquiry, and the results brought out, are shortly as follows:—

1. The amount of bile in the fecal evacuations bears no relation to the quantity secreted by the liver. Purgatives certainly increase the amount of unchanged bile in the stools, but this is because they augment the rapidity of its passage through the intestinal canal, and thereby prevent its absorption and decomposition. The idea that inspection of the feces can inform us how much bile is formed, is therefore erroneous. The only method of determining this point is by making fistulous openings into the gall-bladders of animals, tying the common ducts, and measuring the quantity produced.

2. The history of what was previously known as to the amount of bile secreted in dogs, without and with mercury, was undertaken by Dr. James Rogers, a gentleman who had long practised medicine at St. Petersburg. He has an intimate knowledge of continental languages, and has made therapeutics a special study. He shows that, since the days of Haller, there is no well observed fact which indicates that mercury acts as a cholagogue.

3. All the operations were performed by Dr. W. Rutherford, who gives a minute account of the best mode of producing biliary fistulae, and the manner of collecting the bile. It was not without many failures and repeated disappointments that the experience was acquired which at length enabled the committee to arrive at greater success in a larger number of cases than has characterized any previous investigation of a similar character.

4. A special investigation was next undertaken and carried through by Dr. Rutherford, to ascertain whether the dog was capable of being influenced by mercury in the same way that man is. It would have been obviously useless to have entered upon so laborious an inquiry with this animal, unless that point had been satisfactorily ascertained. It is conclusively shown that the dog is affected by mercury exactly in the same way as man; that he presents the same symptoms when affected by the drug; and that when poisoned by it the same post-mortem appearances are produced. A complete refutation is subsequently given to the opinions of those who imagine that observations on dogs can tell us nothing of the influence of mercurial preparations on the human subject.

5. Thus instructed, the committee succeeded in making the most accurate

observations as to the amount of bile secreted before and after the administration of mercury to dogs, employing all kinds of preparations of that drug, various doses, large and small, and introducing it internally and externally. Permanent biliary fistulæ were established in nine dogs, and the amount of bile secreted, before and after mercury was given, carefully noted daily. During the two years over which the investigation extended, not only were the quantities of bile collected compared with the weight of the animal and the amount and nature of its food, but they were in every case analyzed, and the proportion of liquid, solid, and inorganic matters ascertained. The whole series of observations present us with the most valuable collection of facts now on record with regard to the functions of the liver. In addition to demonstrating that mercury is not a cholagogue, the report points out the influence of purgation on the biliary secretion, its relation to consumption of food, to the weight and to the health of the animal, and in what way it is influenced by muscular movements.

6. With a view of exhausting all that had been alleged concerning the influence of drugs on the liver, the committee investigated, in the same careful way, the action of podophylline and taraxacum; and clearly show that these drugs have not, any more than mercury, the slightest influence as cholagogues.

ART. 132.—*Curare in Trismus and Tetanus.*

By Professor BUSCH.

(*Medical Times and Gazette*, May 4.)

Professor Busch, of Bonn, gives us a record of his experience in the history and treatment of traumatic trismus and tetanus during the Bohemian war of 1866.¹

The fights in Paris in 1848 brought one thousand wounded to the hospital, but none was attacked by tetanus. During the Schleswig-Holstein war, 1849, a single case came under the notice of Stromeyer. On the other hand, there were 86 cases during the Italian war of 1859, on the Austrian side, as Demme informs us, and even more—namely, 140—on the Italian side. The expedition to the Crimea occasioned the admission to and treatment of 12,094 wounded in the English hospitals, 19 of whom only suffered from subsequent attacks of tetanus. Three hundred and sixty-three such cases occurred during the great American war. The percentage of occurrences is largest in hot climates; for instance, Gilbert Blane states that 30 cases of traumatic trismus and tetanus happened during the West Indian war, when the number of wounded was 810.

Dr. Busch had 21 cases under his observation in his field hospitals. Twelve of them were in the castle of Hradek, where 500 patients were accommodated, 5 in the Lazaretto of Nechanic, where 600 were confined, 2 in Castle Prim, and 2 in Castle Stracow. Dr. Busch believes that special localities and overcrowding favored the attacks. Almost all the cases were gunshot wounds of the lower extremities; this is partly explained by the timely removal to more distant hospitals of those who had wounds of the lower limbs.

The percentage of recovery is larger in tropical climates—at least Blane saved 43 per cent.; of Demme's cases 7 per cent. recovered; 7.4 was the percentage in the American war; of Busch's 21 cases 7 were saved—i.e., 33½ per cent. The proportion is the more favorable the less acute the cases are. Where the symptoms become alarming on the first or second day of the attack, where the pulse rises to 90 to 120 beats, and the temperature exceeds 40° C., no hope is left. The intensity of the single attacks, the rapidity with which the convulsions spread from one group to the other, are of bad augury. When, shortly after the first warnings, the neck gets stiff, the teeth cannot be separated, when, soon after, the convulsions reach the trunk and extremities, and the tonic

¹ Dr. Busch *On Trismus and Tetanus*, reprinted from the *Transactions of the Rheno-Westphalian Association for Natural History and Science*, 1867. (*Verhandl. des Naturh. Vereins für Rheinland und Westphalen.*) Pp. 15.

spasms change into clonic, the patients usually die. On the contrary, there is more chance of recovery when the mobility of the neck is only slightly interfered with, when the difficulty of opening the mouth increases slowly, when to the affections of the muscles of deglutition and mastication either no general convulsions supervene, or the muscles of the trunk and extremities suffer only at a late period and moderately. The time the disease lasted varied in Busch's cases from twelve days to a month.

Demme treated 22 cases with curare, 8 of which recovered; Busch 11 cases, 5 of which ended fatally. Of the 6 who recovered, 1 owed his health more to morphia given subsequently to the curare than to the latter. In very acute attacks Busch thinks it is of no use to try curare; he treated his first nine cases with morphia and inhalations of chloroform. He had one remarkably bad case where a quarter of a grain of morphia was injected every two hours, and the patient recovered, contrary to all expectation. The mode of exhibiting the curare was by subcutaneous injection; $\frac{1}{15}$ to $\frac{1}{30}$ grain of the pure article will suffice, injected every two hours. The 11 cases are related in which this was done, and the post-mortem appearances given in some. The author refers to the experiments of Humboldt, Brodie, and Voisin, made on animals, to the treatment of tetanus in horses with curare by Lavell (1810-12), and its first use in men by Vella (1859). The physiological effect of curare is paralysis of the nerves in the muscles; by this the electric currents are impeded from reaching these muscles. It seems that the peripheral ends of these nerves get earlier paralyzed in those muscles affected with electric tension than in those not affected with tetanus.

The improvement of the patients is attested by the decreasing intensity of the convulsions. The patients themselves urgently requested the exhibition of the remedy as soon as they became aware of an imminent spasm by the increased rigidity of the muscles.

The author considers it desirable to employ in future the efficient component part of the remedy—the *curarine*. Sulphate of curarin was exhibited at a subsequent meeting by Dr. Preyer.

ART. 133.—*Tetanus treated with Calabar Bean.*

By Drs. BOSLIN and CURREN.

(*Medical Press and Circular*, Feb. 24.)

Drs. Boslin and Curren (*Chicago Medical Journal*) have treated a case of acute traumatic tetanus of violent character with large doses of morphia and Calabar bean. For a portion of the time, a grain and a half of morphia and three grains of the powdered bean in glycerine were given every hour, with the manifest effect of quieting the patient and relieving the spasm. The patient recovered.

ART. 134.—*Treatment of Traumatic Tetanus by Calabar Bean.*

By C. HOLTHOUSE, F.R.C.S.

(*British Medical Journal*, March 6.)

At a meeting of the Clinical Society of London, held Feb. 26th, Mr. Holthouse related two cases of traumatic tetanus in which the Calabar bean extract was given in larger doses than had hitherto been considered compatible with safety, viz., three grains every two hours, and on one occasion as much as four grains and a half in a single dose. The first case, in which the large doses were given, recovered. The second, which was of a more acute character, died on the fourth day of the seizure, notwithstanding the physostigma had been given from the very first accession of the symptoms in grain and a half doses every hour, and the patient was for the greater part of the time fully under its influence. He remarked that, with our present knowledge of the pathology of tetanus, a successful issue could scarcely be looked for in those cases in which

the peripheral nerves were deeply implicated, unless they could be acted on simultaneously with the cord. The Calabar bean diminished the excitability of the latter and of the motor nerves, but did not affect the sensory nerves; we wanted a remedy which would act similarly on these, and possibly opium, from its known paralyzing effect on the nerves, might do this. The chief points of interest in the fatal case, in which the knee-joint was laid open by a large lacerated wound, were the almost entire absence of constitutional symptoms till the accession of the tetanus, and the absolute immunity from painful cramps which constitutes so striking a feature of the disease.

Mr. Bryant referred to a case in which he thought that the fatal result was due to the influence of the Calabar bean. He thought very ill of treatment in acute tetanus, but drew attention to the possible utility of tracheotomy as preventible of the risk of death from spasm of the glottis.

Mr. Maunder in two cases failed to gain anything from the use of the Calabar bean; he had found more help from opium. Tetanus did not, he considered, especially attack the larynx, and he doubted if much good would come from tracheotomy, although it was an operation he thought deserving of a trial.

In reply, Mr. Holthouse observed that in tetanus patients either died suffocated during a paroxysm, or they died of exhaustion. If this suffocation was from spasm of the glottis, then opening the trachea would undoubtedly prevent death from that cause, but it was equally probable that death during the paroxysm arose from spasm of the diaphragm, and possibly of all the respiratory muscles. The symptoms which Mr. Bryant had detailed as occurring in his case were those which always precede death from exhaustion. Mr. Holthouse did not believe that the Calabar bean had anything to do with the death.

Mr. Callender referred to cases of tetanus treated by Mr. Wormald by active aperients, and to the good results which were thus obtained in many instances

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 135.—*On the Treatment of Carbuncle.*

By JAMES PAGET, D.C.L., F.R.S., Surgeon to St. Bartholomew's Hospital.

(*The Lancet*, January 16).

Mr. Paget is opposed to "free incisions." He fully believes that *crucial* incisions do not prevent extension; that it is only a limited set of cases in which the incisions diminish pain; and that with regard to the time that is occupied in healing with or without incisions, the healing without incisions is very clearly and certainly a great deal quicker.

Another method which Mr. Paget has occasionally tried, but of which he can only state the same general results, is that of subcutaneous incision. This has been supposed to have the same general effect as the other; and he thinks that the same general conclusions may be drawn respecting it: that it is a measure unnecessary in the treatment of carbuncle, and that it retards rather than hastens the healing. When Mr. Paget speaks thus of the incision of carbuncles, however, he does not mean to say that there is no condition of carbuncle in which an incision is not useful. Sometimes a carbuncle sloughs in its central part, with one continuous slough of integument holding in a quantity of pus. In that case you would cut through the slough, or through any adjacent part of the carbuncle to let out the pus, as you would open an ordinary abscess. But this is not a measure which is commonly understood by the "incision of a carbuncle."

"In local treatment," Mr. Paget says, "one of the best things you can do, if the carbuncle is small, is to cover it with *emplastrum plumbi* spread upon leather, with a hole in the middle through which the pus can exude and the slough can come away. That, occasionally changed, is all the covering that a small carbuncle will need. It is difficult thus to cover the whole surface of a large carbuncle, and to keep it clean; therefore, I think that the best application for that is the common resin cerate. This should be spread large enough to cover the whole carbuncle, and over it should be laid a poultice of half linseed-meal and half bread. And, if you want to exercise your skill, learn to make that poultice well, and to put it on well, and to keep it in its place well. That mode of dressing the carbuncle, so far as the materials are concerned, will last through its whole course; but whilst the carbuncle is making progress and discharging its slough you will find plenty of room for the exercise of considerable skill in dressing it, and filling up the cavities with soft substance spread with this ointment. Besides this, the carbuncles are to be carefully washed, especially with some deodorizing substance, as *Condy's fluid*, or weak carbolic acid, and the cavities may be syringed out with it. The importance of cleanliness is very great. With regard to diet, I am certain that there is no good to be obtained by large feeding or abundant stimulant. Of medicines I say nothing. Quinine, bark, and other medicines of that class, may be given if you please, or in case of evident need, and so many aperients; but there is really no need of them in an ordinary case of carbuncle. But there is one medicine which you may find very valuable, and that is opium, especially in all the earlier painful stages of carbuncle, in which it relieves the suffering as thoroughly as incisions, or anything I know. After the early stages even that is unnecessary, except for some patient who may be unable to sleep.

"But there is one measure in the treatment of carbuncle which is seldom employed, and yet is of great importance, and that is letting the patient have

very free air. The general idea that carbuncles are very dangerous diseases has commonly led to the patients being entirely confined to bed and kept shut up in their rooms."

ART. 136.—*Experimental Studies on Burns.*

By Dr. GUSTAVE WERTHEIM.

(*Medizin. Jahrb. der k. k. Ges. d. Aerzte in Wien*, 1868; *Gazette Hebdomadaire*, No. 42, 1868.)

The most simple lesions may present on investigation many unexplained or imperfectly recognized points. This fact is demonstrated by the researches of Dr. Wertheim on burns. This observer has made a series of experimental and histological investigations on dogs of which the following are the principal results. The experiments were made on animals of medium size, and the cauterization or burning was caused by means of essence of turpentine or of boiling water, the dogs having been previously narcotized by chloroform or by the injection of tincture of opium into the crural vein.

Cauterizations or burns cannot be repeated often without compromising the life of animals. Generally after five or six experiments with burning the chest or abdomen the dogs died, sometimes in six days, sometimes in a few hours, according to the intensity of the cauterization.

The special rôle of the form of lesion was placed in relief by regulating experiments, in which parts of the skin corresponding in extent to that destroyed by burning were removed; in these cases the wounds were soon covered by granulations. In some dogs, two, five, and fourteen hours after cauterization the whole of the mortified part was removed. All the animals thus treated died in twenty-four hours.

The influence of burns upon the temperature is very remarkable. The temperature was taken by means of a thermometer slipped under the integument and pushed as far as the region of the cauterized tissues. The temperature, which was generally about 36 degrees Centigrade in the normal condition, was raised in different cases to 54, 56, 64, and even 73 degrees Centigrade.

Every fresh cauterization produces an elevation of temperature. This is maintained for a short time, but the temperature gradually becomes normal in about an hour, or even a half hour. When the cauterization extends over an extent of about two inches, the general temperature of the animal is raised above the normal standard. The histological changes were carefully studied. With regard to the integument, there is carbonization of the horny epidermic layer, and of part of the layer of Malpighi. The structure and elements of the papillary bodies, on the other hand, are maintained. By the side of the capillaries may be seen abundant deposits of melanine in the form of molecular granulations or rounded masses. After repeating the experiment on the skin of a corpse, changes are observed in the epidermis, which are altogether analogous, but the deposits of melanine in the dermis are no longer so abundant; there is scarcely more than some traces of this substance. The kidneys, in all cases where the animal has succumbed after repeated burning, are the seats of a degeneration which presents the characters of acute desquamative nephritis. In the corpuscles of Malpighi are found coagula, in which the blood elements are amorphous, agglutinated, or tending towards the crystalline form.

In one case the capillaries of the arachnoid contained a number of crystals formed from the blood. In other respects the blood changes constitute one of the most constant anatomical characters. The blood contains a considerable quantity of corpuscles, from the size of from four to one millimetre, and even less, almost representing molecular granulations. Those corpuscles, from their color and from their chemical and optical characters, ought to be considered as formed by the red corpuscles of the blood changed by the high temperature of the burnt parts. These changes exactly resemble those which have been described by Dr. Max Schultze, who examined the blood of different animals and of man. In severe burns the temperature of the parts contiguous to the

eschar often attains a height of 52 degrees, and remains at this point for nearly half an hour. During this time the blood circulates and the globules undergo morbid changes. This is the only possible explanation of the above-mentioned phenomenon, according to Dr. Wertheim, who, foreseeing that the changes might be attributed to the injection of tincture of opium into the veins, made analogous investigations under chloroform, when the same morbid changes were found.

It is interesting to consider these results in connection with those which have been gained from experiments made on congelation, and which also demonstrated blood changes in the congealed parts. It will then be seen that the theoretical explanation, admitting in cases of burns and of congelation the possible transport of altered elements, is now supported by a series of experiments, and that capillary embolism in injuries from cold, as well as in burns, are the cause of many of the serious complications of these lesions, such as duodenal ulcerations, pulmonary and renal infarctions, &c.

ART. 137.—On the Treatment of Wounds by the Application of Carbolic Acid on Lister's Method.

By TIMOTHY HOLMES, F.R.C.S., Surgeon to St. George's Hospital, and Lecturer on Surgery; and W. B. HOLDERNESS, House Surgeon to the Hospital.

(*St. George's Hospital Reports*, vol. iii.)

In this paper Messrs. Holmes and Holderness relate the results of the application of carbolic acid in the practice of the former surgeon, and in the out-patient room. The results, it is stated, are not in themselves striking; nor can it be affirmed decisively that they are better than would have been attained under the ordinary methods of treatment.

ART. 138.—On the Antiseptic Treatment of Wounds.

By WILLIAM MACCORMAC, M.A., M.D.; Fellow of the Royal College of Surgeons in Ireland; Member of the Senate of the Queen's University in Ireland.

(*Dublin Quarterly Journal*, February.)

The results Dr. MacCormac at first obtained after the carbolic acid treatment were, he states, not so satisfactory as he had been led to anticipate; but on further and more careful trials, more decided benefits were realized, so much so as to lead him to attribute his previous ill success to want of familiarity with the method, or perhaps to some carelessness in the application of the dressings. The mode of dressing he has usually employed is not so complicated as that of Professor Lister, since the use of patty or plasters is, in most instances, dispensed with. The wound, all hemorrhage having been carefully stanchcd, is first washed out with a weak solution, one part in thirty of carbolic acid, the edges are then coapted, and several layers of lint, soaked in carbolic oil, one part in four, applied. The only other precaution needful is to keep the lint daily freshened with oil, and in this way its antiseptic properties seem thoroughly preserved. In cases of compound fractures the simple superposition of some folds of lint soaked in oil, has proved adequate to prevent septic change, without injecting the acid into the wound. In these cases there is usually profuse hemorrhage, and when the wound is small the air is washed out with the blood, so that it appears to him to be in most instances unnecessary, and therefore undesirable, to inject the acid. When abscesses are opened Dr. MacCormac does not generally think it needful, before incising them, to apply an antiseptic veil of lint. The tension of the parts causes the pus to jet out with more or less force, and so long as any regurgitation of air is prevented no harm can accrue.

Dr. MacCormac gives the details of several cases in which he has used carbolic acid dressing. He has employed it in various ways to wounds, after opening abscesses, as an application to non-infecting venereal sores, and to phagedenic and other ulcers, with very beneficial effects. Sometimes he has met with disappointment, but generally the results have been extremely satisfactory and encouraging.

The conclusions Dr. MacCormac is disposed to draw in respect of the surgical uses of carbolized dressings are—first, that by their means those conditions which promote the formation of pus are sometimes wholly prevented, at other times greatly diminished in power, and that when pus is formed it proves an innocuous fluid, not prone to decomposition, and not injuring by its presence the wounded surface with which it is in contact. Secondly, he thinks the amount of pus is diminished where suppuration does occur. Thirdly, he has been much struck by the absence of those results of serious injuries, which so usually ensue both in the neighborhood of the wounded parts and constitutionally. He has observed over and over again the almost total absence of pain, inflammatory swelling, and surgical fever where such might otherwise have been expected to occur. In extensive injuries, involving the deeper-seated parts, it has appeared to him that those structures heal more readily, and that the wound soon becomes merely superficial, a granulating surface closing in and protecting the tissues beneath. When this result is attained it then becomes no longer necessary to continue rigidly the antiseptic treatment, and the wound may be treated like any ordinary superficial ulcer, with such applications as may appear best suited to promote healing, amongst which the carbolized lotion should occupy a high place. Fourthly, Dr. MacCormac is disposed to believe that pyæmia will become comparatively of rare occurrence, but to establish this as a certain fact, he says, will require a very long series of observations.

ART. 139.—*A New Surgical Dressing.*

By D. HAYES AGNEW, M.D.

(*Pennsylvania Hospital Reports*, 1869.)

"A few months since my attention was drawn by Dr. Studdiford, of Lambertville, New Jersey, to a form of paper which had been manufactured, for some purpose (I know not what), by a firm in his town. It was constructed from colored rags decolorized by chloride of lime, and the pulp passed into sheets. The doctor thought it might be used as a surgical dressing, and had, I believe, actually applied it in a case of amputation. Being on duty at the time in the hospital, a favorable opportunity was offered for a practical test of its value. We had some prepared as soft as possible in its texture.

"The first experiment I made was designed to determine its absorbent property as compared with lint. Two strips, the one of lint and the other of the paper, were cut of equal length and breadth; these were suspended over vessels containing the same quantity of water. As soon as the strips and water were brought in contact the imbibition commenced, that of the paper with great rapidity, that of the lint slowly. When their thorough saturation was completed it was found their capacities were equal, with the important difference of one-half in time in favor of the paper; that is to say, square inches of paper and lint will receive just equal quantities of fluid, but the paper will take its equivalent in one-half the time required by the lint.

"A second experiment was performed, in order to determine the cohesiveness or strength of its texture. A piece of the paper was saturated with moisture, crushed together roughly, and then thrown into a vessel of water, and allowed to macerate for several hours. When removed it was unfolded and spread out into its original form, without separation in the continuity of its parts.

"Desiring next that this dressing should have a surface impermeable to moisture, I desired the manufacturer, through my friend Dr. Studdiford, to apply a thin film of rubber over one surface. This was soon done, and so neatly as in

no way to destroy its pliancy. Thus prepared I have used it in the hospital, and claim for it the following advantages:—

"1. It is the cheapest dressing, costing from twenty to twenty-five cents per pound, while lint costs two dollars per pound. These figures, however, do not exhibit the proper difference, as the paper is almost double the weight of the lint; but estimating it at double, it would stand—lint two dollars per pound, paper fifty cents per pound.

"2. It absorbs so much more rapidly than lint that wounds are kept freer from their secretions and discharges.

"3. Where lotions are required and evaporation avoided, the paper answers both ends, by having one surface water-tight, thus rendering the usual covering of oiled silk unnecessary, another item of saving, and one of no inconsiderable amount in a hospital."

ART. 140.—*The Treatment of Joint-Affections by Continued Extension.*

By Professor VOLKMANN.

(*British Medical Journal*, March 27.)

Professor Volkmann reports favorably of the method of continued extension in the treatment of diseases of certain joints. He has applied it with great success for hip-joint disease and affections of the vertebral column. In disease of the knee-joint, the results of this proceeding have not been found equally satisfactory. The cases in which continued extension was practised by Volkmann were generally those of acute, painful, and rapidly progressive coxalgia, and Pott's disease of the spine without much deformity. Ankylosis, extensive infiltration of the soft parts, periarticular suppuration, and chronic disease accompanied by formations of granulations between the bones, are all contraindications of this plan. The application of a weight, generally a sand-bag, to the extremity of the affected limb, in disease of the hip, removes pain and the tendency to muscular contraction, and also, by bringing the femur parallel to the axis of the body, serves to prevent great deformity and a faulty position of the thigh with regard to the pelvis. Professor Volkmann bases his practice upon the view that ulceration in joint-disease is produced by the close contact and pressure of inflamed synovial and cartilaginous surfaces. This, he thinks, is proved by the facts that the caries is most intense at the hard parts placed in contact, and that a cure is generally brought about after the luxation of the limb, after resection, and even after removal of only one of the diseased articular surfaces.

ART. 141.—*Forced and Prolonged Flexion of the Limbs in Traumatic Hemorrhage.*

By M. VON ADELMANN.

(*Presse Belge*, January.)

M. von Adelmann, of Dorpat, in a paper laid before the Belgian Academy of Medicine, and founded upon ten cases occurring in his practice, arrives at the following conclusions: 1. Forced flexion is a valuable means of arresting traumatic hemorrhage. 2. It should be employed before having recourse to other hæmostatic agents. 3. It may be resorted to even in cases in which ligation of the artery has failed. 4. A knowledge of its mode of application should be popularly diffused, so as to allow of its being at once adopted while awaiting the arrival of the surgeon. 5. Such knowledge may also be very useful in armies. 6. It is very desirable that manuals of surgery should bring the subject into prominent notice.

ART. 142.—On the Treatment of Suppurating Joints by Free Incisions.

By THOMAS BRYANT, F.R.C.S., Assistant-Surgeon to Guy's Hospital

(Medical Times and Gazette, May 15.)

The practice of making a free incision into a joint, Mr. Bryant writes, is only justifiable when disorganization or suppuration has taken place, whether that suppuration be the result of a chronic disease or of an acute one following a wound of the articulation.

In acute suppuration of a joint the result of a wound, the author believes there is no better practice to be followed. A free incision into the articulation under most circumstances not only is the best local treatment, but the best general, for it seems to be true that, as soon as a free outlet for pus has been made, surgical fever, although intense, may be expected to subside, and local symptoms to pass away. The incisions when made should, however, be free, that the escape of pus may be complete. By this practice joints will be often saved, and movement secured.

In disorganization of a joint, the result of chronic disease, the plan of treatment by a free incision is not, however, so simple; for its value, as already indicated, depends much upon the original seat of the disease. When the disorganization of the joint has been secondary to disease in the articular extremity of the bone, to acute or chronic inflammation terminating in necrosis, partial or complete, it is not to be expected that a recovery is to take place by giving free exit to the suppuration in the joint, for the cause of this suppuration will remain after the adoption of the practice, and thus keep up the irritation and prevent a cure. The incision may relieve the symptoms, but will not cure the disease or do much towards hastening ankylosis. Nothing but the removal of the diseased bone, either after incision, as in an ordinary operation for necrosis, or by resection, will be of use; for the disorganization of the joint is clearly the result of disease of the bone, and the seat of the disease must be made out before the correct treatment can be applied. An incision as an exploratory operation may, however, be of use in the case, for it may facilitate the removal of the diseased bone, and thus hasten recovery. When, however, the disorganization of the joint has been the result of disease in the synovial membrane, the value of a free incision into the articulation is very great, for in these cases, although the disorganization may be complete, the disease in the bone will probably be only superficial, and will rarely be found to extend far into the cancellated tissue. The disease in the bone is the result of synovial mischief, and will consequently recover when the source of disease has been removed, and the pus has been evacuated from the joint. Indeed, it is in disease of the synovial membrane of the pulpy kind, in which suppuration has taken place, that this practice of making free incisions into the articulation is carried out with the greatest advantage. Several cases are related in which the truth of these remarks is demonstrated.

ART. 143.—A Case of Tetanus following Compound Fracture of the Arm; Recovery.

Under the care of Mr. TATUM, St. George's Hospital.

(The Lancet, December 19, 1868.)

The following very interesting case illustrates the successful treatment of traumatic tetanus by the subcutaneous injection of atropine and morphia.

George B., aged forty, a cab-driver, was admitted into St. George's Hospital, having fallen from his cab whilst drunk. The lower end of the right humerus was fractured in several places, one fracture apparently running into the joint. On the inner side of the arm, a short distance above the inner condyle, there was a wound an inch long, communicating with the fragments. The limb, which was much bruised and

swollen, was put up in an angular splint, and the patient was placed upon ordinary diet and a pint of porter. He went on well until the fifteenth day, when he complained of pain in the arm and stiffness of the jaws, which gradually increased; and two days later—namely, on Jan. 30th—he was unable to open the jaws more than half way. There was, however, no stiffness of the neck, or pain in the epigastrium; and his countenance and demeanor were tranquil. The bowels being confined, a turpentine enema was administered.

The patient continued in much the same state until the 2d February, when his appetite began to fail, and the trismus slightly increased. He was ordered wine and eggs, and at 10 P. M. was injected with $\frac{1}{10}$ gr. of sulphate of atropine.

On the following day the jaws were firmly closed; the arm "jumped" a great deal, and he had slight vertigo. The pupils were somewhat dilated. The injection was repeated at 10 A. M. and 10 P. M., a blister applied to back of neck, and nutrient enemata ordered.

Feb. 4th.—The arm still "jumps;" has twitchings of all the limbs, and pain in the epigastrium. The jaws will allow the protrusion of the tip of the tongue, which is clean and moist. Pupils less dilated; pulse 72, weak; respiration 20; temperature in axilla $97^{\circ}.7$. At 8 P. M., $\frac{1}{10}$ gr. was injected, and at 7 P. M., $\frac{1}{10}$ gr.

5th.—Has had a very restless night; the trismus remained, and deglutition was difficult; the mouth drawn to the right side; pulse 84, soft; respiration 24; temperature $98^{\circ}.1$. $\frac{1}{10}$ gr. was injected at 1 A. M. and 10 A. M., and $\frac{1}{10}$ gr. at 2.20 P. M. The turpentine injection was repeated.

6th.—Was very restless during the night; the trismus continues, rendering it difficult to get anything into the mouth, but there is no pain in swallowing. Still has pain in the arm and twitching of the limbs; tongue rather coated; pulse 104, soft and small; respiration 22; temperature $98^{\circ}.2$. At 10 A. M. and 10 P. M., the injection of $\frac{1}{10}$ gr. was repeated; brandy, four ounces; beef-tea, four pints.

7th.—Passed a less restless night; the spasms are more frequent and severe; trismus same; tongue coated; no appetite; pulse 112, soft; respiration 24; temperature $98^{\circ}.1$. Sulphate of atropine, $\frac{1}{10}$ gr.; bimeconate of morphia, $\frac{1}{4}$ gr.; distilled water, six minims. Mix; send two drachms of this solution. At 10 P. M. seven minims of solution were injected.

8th.—Patient slept during the greater part of the day, and he was not disturbed for the purpose of taking notes; spasms reported to be less frequent and severe. Brandy, eight ounces daily. The injection was repeated at 10.30 A. M., 4.15 P. M., and 10 P. M.

9th.—The severity of the spasms has decreased, and there is less twitching of the limbs. The trismus is well marked, and the sterno-mastoid muscles are rigid, but there is no opisthotonos or pain in the epigastrium. Skin cool and moist; bowels open; pulse 112, soft; respiration 21; temperature $99^{\circ}.4$. At 10 P. M. the injection was repeated.

10th.—Has had a restless night; occasionally has sharp pain in the left side of the abdomen. The arm aches a great deal, but there is less trismus and rigidity of the sterno-mastoids, and the spasms generally are much less distressing; sweat acid; bowels open.

11th.—The arm and elbow are a good deal swollen; tetanic symptoms improved.

12th.—The arm is more swollen; the spasms are diminishing; deglutition fairly easy; pupils normal; pulse 96; temperature 99° . At 10 A. M. and 10 P. M. the injections were repeated.

During the next two days the symptoms continued about the same. The extensors of the thighs were chiefly affected, and the slightest touch would bring on spasms. The swelling of the arm increased. The injections were repeated morning and evening. A turpentine enema was administered.

15th.—An abscess was opened on the inner side of the elbow, from which a considerable amount of fetid pus escaped. Pulse 92, weak; respiration 20; temperature $99^{\circ}.8$. Injections repeated as before.

The next day patient was much the same; and on the 17th, the trismus had almost gone; there was no risus, the muscles of the neck were lax, and there was but little spasm of the limbs; appetite good; skin cool and moist; tongue clean; bowels open; pulse 112; respiration 24; temperature $100^{\circ}.8$. Injection repeated at midnight.

On the following day there was an increase of the spasms, and there was slight trismus; pulse 100, weak; respiration 20; temperature 98° . At 12 P. M. the injection was repeated.

On the next day the spasms had ceased, and from this day the patient gradually improved. The muscles of the limbs, however, were occasionally attacked by spasms, more especially the extensor of the thighs; and there was more than once a recurrence of trismus, with rigidity of the muscles of the neck. By degrees all these symptoms subsided, and on the 25th the patient was able to sit up in bed. Several times at about 8 A. M., he suffered from slight pain in the elbow and front of the thighs. On the 28th there was a total absence of all tetanic symptoms, and there was no recurrence of them after this date. On March 13th the patient was discharged, with his general health fairly good.

There was a great deal of thickening of the lower end of the humerus, and slight shortening of the arm; but there was some amount of motion of the elbow-joint.

ART. 144.—*Researches on the Results of Section and Resection of Nerves in relation to the state of Sensibility of the Integuments and of the Peripheral Extremity of the Divided Nerve.*¹

By MM. S. ARLOING and TRIPIER.

(*Gazette Hebdomadaire*, No. 50, 1868.)

A certain number of clinical facts have recently been published, which tend to demonstrate that after solutions of continuity, whether simple or with loss of substance, of the median nerve, the sensibility does not completely disappear or very rapidly return over those parts to which the nerve is distributed.

These observations are in contradiction to the rules established by physiology, and the experiments undertaken for the purpose of verifying them have as yet given but negative results. Investigations have been commenced by the authors with the intention of reproducing the phenomena described in the clinical observations, and finding for these some rational explanation. The researches were made on the spinal nerves, and on those especially which pass to the thoracic limb. The animals experimented upon belonged to different species; but all were not equally favorable subjects for this kind of investigation. The following results were presented by dogs.

For the success of experiments of this kind it is very important to dispense with the employment of anæsthesia, in order to avoid profuse hemorrhage, and moreover to allow a certain interval (one hour and even more) between the time of the operation and the time of examination.

The experiments have been arranged in two great groups. Those of the first group relate to the state of sensibility of the integument; those of the second to the sensibility at the peripheral extremity of the divided nerves.

The experiments show that sections of certain nervous trunks do not induce complete insensibility of the integuments; that the peripheral ends of the three nervous trunks supplying the palm of the hand remain sensitive, provided that one of the trunks remain intact, and that the sections be performed about the middle of the forearm; and finally, that the peripheral end of a terminal branch of one of these three nerves remains sensitive if the trunk which has supplied this branch is not cut through, whilst the sensibility of this peripheral extremity disappears with the radial and ulnar as soon as the corresponding trunk is divided.

The authors speak of some new clinical facts which are of great importance. The first occurred to a young man, who after a wound at the root of the thumb was attacked with painful cramps in the whole of the limb, and exaggerated flexion of the hand. Very soon trismus came on, and the median nerve was then divided at the upper third of the arm. Two hours after this operation, the persistence of sensibility could be made out in the regions of the hand supplied by the median nerve. The investigations were made by grazing the parts with a resisting body, by pricking and pinching. The sensibility to cold and heat disappeared. The tetanic symptoms afterwards increased in intensity, but finally disappeared at the end of the first week.

¹ Communicated to the Académie des Sciences.

The subject of the second case was also a young man who in a fall received a contused wound of the lower part of the forearm and of the front of the hand; the tissues were so much contused that the surgeon was obliged to cut away some flaps of skin, fragments of tendon, and the two ends of the divided median nerve. As a result of this, there was a loss of substance of the median nerve amounting to four or five centimetres. Sensibility persisted, as in the preceding case.

The third case was one of a man advanced in years who, independently of a cardiac affection with concomitant respiratory disturbances, suffered from neuralgia of the external part of the leg. The endermic application of narcotics in very large doses had failed to give any relief, and the patient cried out by day and night. The external saphenous nerve was divided at the lower part of the limb, and six hours afterwards the inferior end was resected. Before the resection was performed, the peripheral end was irritated, and on two different occasions was found sensible. On the same occasion there was even a movement of flexion of the foot upon the leg, with very marked increase of the pain. The neuralgia did not cease.

By applying these clinical facts to the physiological results obtained by MM. Arloing and Tripier, a perfect concordance is found to exist between them. Thence it results, with regard to therapeutics, that neurotomy, whether simple or with resection of nerve, should not be much relied on in nervous affections without appreciable lesions (tetanus, neuralgia, &c.), as the nervous transmission still continues in action.

ART. 145.—*Acute Rheumatic Affections of the Joints: their Pathology and Treatment.*¹

By WILLIAM ADAMS, F.R.C.S., Surgeon to the Royal Orthopædic and Great Northern Hospitals, &c.

(*Medical Times and Gazette*, February 6, 1869.)

After referring to the great advance made in the modern treatment of joint diseases—a result obtained by our more exact knowledge of structural anatomy and the physiology of nutrition, as well as the study of inflammation in its physiological and pathological bearings—Mr. Adams proceeded to consider whether the classification and description of joint diseases should be made upon an anatomical or pathological basis. He preferred the pathological arrangement, considering that the anatomical basis might lead to a much too narrow view of the pathology of diseases of the joints in reference to the constitutional conditions upon which they depend.

As some authors consider the synovial membrane and the cancellous tissue of the bone to be the only structures liable to primary inflammation, Mr. Adams produced some evidence to show that both the ligaments and articular cartilages were frequently the primary seat of disease, the *ligaments* suffering from inflammation after sprains and injuries, which, when occurring in strumous constitutions, frequently led to complete destruction of the joint, as seen in hip-joint disease, which, Mr. Adams believes, generally commences in the round ligament.

The *articular* cartilages are liable to changes of nutrition, scarcely separable from the effects of inflammation in its more chronic form, such as fibrous degeneration, and also hypertrophy and subsequent ossification, which Mr. Adams first pointed out as occurring in the production of osteophytes in chronic rheumatic arthritis. They are also believed to be the seat of true inflammatory changes, as represented by the textural changes of cell nutrition; and Professor C. O. Weber considers that suppuration may occur in the texture of articular cartilage. Mr. Adams, however, expressed some doubt upon this point, though admitting the other inflammatory changes.

¹ Abstract of Lettsomian Lectures delivered before the Medical Society of London in 1869.

A very large proportion of all the cases of joint disease met with in practice are associated either with a rheumatic or strumous constitutional condition, and the influence which these constitutional conditions exert on the local affection, Mr. Adams proposed to make the special subject of the present lectures, thus regarding joint diseases from a constitutional point of view.

The first, and indeed the great question to be considered is—To what extent is the inflammatory process, when affecting the joints, modified with respect to its results or so-called terminations in adhesion, suppuration, and ulceration by the constitutional conditions of rheumatism and struma? Mr. Adams believes the general law of rheumatic and strumous inflammation to be, that, in the rheumatic form, whether acute, subacute, or chronic, there is no disposition to the destructive processes of suppuration and ulceration, whilst a disposition to these destructive processes constitutes the chief pathological characters of the strumous inflammation.

Does suppuration ever occur during the progress of acute rheumatic inflammation in the joints, the eye, the pericardium, or pleura, or in any other structures of the body? Mr. Adams considers that suppuration never does occur as the result of rheumatic inflammation in any organ or tissue of the body, but that rheumatic inflammation always exhibits the same tendency to terminate in the effusion of serum and plastic lymph, and that by the organisation of the latter adhesions are formed.

In the eye, the ophthalmic surgeon has no fear that rheumatic iritis will terminate in suppuration or ulceration; its termination in adhesion is constantly seen, and its prevention is the chief object of treatment. In the pericardium and pleura, when attacked by rheumatic inflammation, the physician looks forward to the same termination. Rheumatic inflammation, therefore, exhibits itself essentially as a productive process, and strumous inflammation essentially as a destructive process.

In the general pathology of rheumatism it is of importance to ascertain whether there are any modifying influences which may alter the ordinary progress and termination of rheumatic inflammation. The most important modifying influences are those of struma, syphilis, gonorrhœa, and leucorrhœa. Of these it may be said that none of them produce any essential modification as to the results of the rheumatic inflammation. No tendency to suppuration or ulceration is induced by any of these complications, but still each of them exerts some special influence on the progress of the rheumatic inflammation.

Mr. Adams then proceeded to the description of

ACUTE RHEUMATIC SYNOVITIS,

its general characters, symptoms, and progress. The doubt expressed by the late Dr. Todd as to the true inflammatory nature of the joint affection was removed by reference to the post-mortem examinations of several patients who had died from cerebral or cardiac complications of rheumatic fever, from the fourth to the twenty-fifth day. In all these examinations the morbid appearances were essentially of a similar character—viz., inflammation of the synovial membrane, with effusion into the joint of serum, with albuminous shreds or flocculi of lymph floating in it. In no instance was the existence of pus or of any ulceration of the articular cartilage described. Mr. Adams regretted that so few post-mortems were on record in which the joints had been examined in patients who had died during an attack of rheumatic fever.

In the treatment he spoke of the value of the hot-air bath, applied whilst the patient is in bed, and alkaline fomentations to the inflamed joints. The action of alkalies, both externally and internally, he believed, was not so much in neutralizing the excess of acid in the system as in their tendency to fluidize the blood by their direct chemical action upon the fibrin, which is known to be much increased in quantity in this affection. The effect of this in the local application was to remove the condition of stasis of the blood corpuscles, always existing in inflammation. The action of mercury was also discussed in reference to its power of diminishing the quantity of lymph effused, of preventing its organization, and promoting its absorption, especial reference being made to the experience of ophthalmic surgeons in the treatment of rheumatic iritis.

The next affection described by Mr. Adams was that of

ACUTE RHEUMATIC SYNOVITIS, IN AN AGGRAVATED FORM, LOCALIZED IN ONE JOINT DURING THE EARLY STAGE OF RHEUMATIC FEVER—GONORRHOEAL OR GENITAL RHEUMATISM.

These cases at their commencement exhibit the ordinary symptoms of rheumatic fever, but instead of metastasis of the articular inflammation occurring, the inflammation in an aggravated form quickly localizes itself in one joint, usually the knee or the hip-joint, so that the joint affection quickly becomes the predominant feature. The acute symptoms generally continue from three to five months. Suppuration is often feared, but no liability to this process exists. It terminates neither in suppuration nor ulceration, but in the effusion of lymph, and organization of adhesion within and surrounding the joint. A specimen exhibiting these conditions was shown to the Society.

The most frequent cause of this affection is the previous existence of gonorrhoea, but sometimes a history only of leucorrhoea can be traced. Hence the propriety of the term genital rheumatism.

The explanation of these cases depending upon a mild form of purulent infection, was considered by Mr. Adams as very doubtful, as only one joint is usually affected, and there is no tendency to suppuration; whilst in pyæmia several joints are generally involved, and suppuration constantly follows. The pathology is therefore obscure.

The constitutional and local treatment are the same as in the ordinary form of acute rheumatic synovitis, but the intense pain can be best relieved by the subcutaneous injection of morphia. Possibly the American plan of extension by weights, proved to be so successful in removing the most acute pain of hip-joint disease, and also the pain in some cases of inflammation of the knee-joint, might meet with equal success in this affection, and is worthy of trial.

For the removing of the remaining stiffness of the joint the use of the steam-bath, shampooing, and passive motion was recommended to be commenced early, and, if these failed, forcible extension under chloroform was to be used, and repeated every two or three weeks, very little being attempted each time; the restoration of motion thus being very slowly and gradually obtained.

Subacute and Chronic Rheumatic Affections of the Joints: their Pathology and Treatment.

This form of rheumatic inflammation, Mr. Adams observed, most frequently occurs in young adults, free from gouty tendency. The knee-joint is generally affected, and the form of the swelling corresponding to the synovial sac is diagnostic; fluctuation is distinct; there is some increase of heat, and a little pain, but no redness of the skin. It has no disposition to suppuration or ulceration, but generally terminates in resolution with slight stiffness of the joint, which is gradually removed by treatment. A very similar condition is occasionally met with in persons beyond the middle period of life who have suffered from gout or rheumatic gout.

Gonorrhoea also forms a complication of subacute synovitis, and though only one joint is generally affected, Mr. Adams has seen both knee-joints affected, and iritis, resembling the ordinary rheumatic form of this affection, occurring at the same time.

The diagnosis from strumous and syphilitic synovitis was then given, the latter affection being associated with periosteal inflammation of the articular extremities of the bone.

In the treatment of subacute and chronic rheumatic synovitis, Mr. Adams preferred a large blister dressed with strong mercurial ointment, together with iodide of potassium and bicarbonate of potash internally. The stiffness remaining in the joints may be removed by the use of the local steam bath, shampooing, and passive motion.

The next affection described was *chronic rheumatic inflammation of the joints, not commencing in synovitis, chronic articular rheumatism*. In this affection the ligaments of the joints are primarily and essentially affected; and it has a marked tendency to terminate in true bony ankylosis. In this respect

it differs from chronic rheumatic arthritis, which Mr. Adams believes never terminates in true bony ankylosis, and also in the absence of any enlargement of the articular extremities of the bones by osteophytes, or nodulated growths of bone developed in the articular cartilage.

The clinical history of this form of chronic rheumatic inflammation has not been well described, but a few well-marked cases had fallen under Mr. Adams' observation in patients becoming gradually ankylosed in many articulations, and reduced to a most hopeless condition, without presenting any of the ordinary symptoms of what is called rheumatic gout, or chronic rheumatic arthritis. The articulations of the vertebral column are not unfrequently affected.

In the treatment of this affection, Mr. Adams chiefly relies upon a combination of bicarbonate of potash with ammonia, and when the urine is clear commences the exhibition of sulphur externally and internally, a sulphur vapor bath being taken every day, or every other day. He has also found great advantage from the use of dilute phosphoric acid, in doses of twenty or thirty drops, three times a day. Locally, the use of turpentine liniment and flannel bandages was insisted upon.

The next affection described was *Chronic Rheumatic Arthritis; Rheumatoid Arthritis, or Rheumatic Gout*. For our present knowledge of the pathology and clinical history of this affection, we are chiefly indebted to the labors of Dr. R. Adams, of Dublin, Dr. R. W. Smith and Mr. Colles, of Dublin, and of Mr. E. Canton, of London. The importance of this disease is increased by the fact that its effects have frequently been mistaken for the results of accident, supposed to have been overlooked by the surgeon, such as fracture of the neck of the thigh-bone; shortening of the leg from bruise of the hip; and some cases of dislocation, and other obscure forms of injury. When fully developed, all the structures of the joint are involved, but the most important and characteristic structural changes occur in the articular cartilages and the bones.

In the articular cartilages two processes proceed simultaneously from the commencement of the disease—namely, one of fibrous degeneration, occurring in their central portions, and leading to their complete removal, and the other a process of hypertrophy and ossification, proceeding at the margins, and towards the circumference of the articular cartilages, leading to the enlargement and alteration in form of the bones by the development of nodulated growths, and ring-like layers of new bone at the margins of the articular surfaces. These changes had been first described by Mr. Adams in the third volume of the Pathological Society's *Transactions*, and were opposed to the views entertained by Rokitsansky and other observers, who believed the enlargement of the bones to depend upon a process of inflammatory expansion described as osteoporosis, followed by induration. Eburnation of the bone takes place where the cartilage is removed, and the surfaces are exposed to friction.

These changes were described in detail as affecting the ball and socket, and the ginglymoid articulations. The fibrous structures, including the periosteum, capsular ligaments, intra-articular ligaments of the hip and knee, fibro-cartilages, capsular and intra-articular tendons, undergo various changes, some structures being destroyed by atrophy and fibrous degeneration, whilst ossification is proceeding in others.

In tracing the clinical history of this affection, Dr. Adams, of Dublin, believes it commences in chronic synovitis, but Mr. Adams considers this requires further confirmation; at least, cases have fallen under his observation showing that such is not invariably the case. This disease appears to be of more frequent occurrence in Ireland than in England, and still more frequently met with in Holland, so that exposure to cold and moisture, together with debility and other depressing influences, appear to act as exciting causes of this disease.

With regard to its termination, two pathological peculiarities are observed, one, a remarkable indisposition to terminate in suppuration, and the other that it has no disposition to terminate in true bony ankylosis, motion being preserved by eburnation, but limited in severe cases by osseous growth from the margins of the articular cartilages, and from the surrounding fibrous structures.

The treatment of this affection was considered to be very unsatisfactory, but Mr. Adams believes the evidence of the inflammatory nature of the affection at its commencement not sufficient to call for antiphlogistic treatment; but when synovitis exists, either at the beginning or at a later stage, blisters may be serviceable, but he prefers the perpetual application of warmth and moisture, and when applicable, the use of the local vapor bath. In the latter stages no local treatment is of use except warmth by flannel bandages.

Internally, Mr. Adams recommends the use of bicarbonate of potash and ammonia, and sometimes blue pill and colchicum, when red sediment is deposited from the urine, or when the latter is turbid, but without phosphatic deposits. When the urine is clear, he advises the use of sulphur externally and internally, and also the free use of dilute phosphoric acid. Several patients under his care had benefited by resorting to the hot sulphur baths of Luchon, in the Pyrenees, where they pay great attention to shampooing and passive movements of the joints. The joints should be kept at rest only in the early stage, but when the articular cartilages are destroyed free motion must be encouraged as promoting the process of eburnation, and preserving useful motion in the joints.

Residence in a warmer climate during the winter months was also recommended where practicable.

Strumous Diseases of the Joints; their Pathology and Treatment. Also the Treatment for the Restoration of Motion in cases of Stiff Joint, or Partial Ankylosis.

Strumous diseases of the joints were first considered in reference to their general pathological characters, which Mr. Adams described as—1. The essentially chronic character of the inflammation—chronic, or, at most, subacute from the beginning, and maintaining this character through the whole duration of the disease, generally extending over several years; and 2. The tendency of the inflammation towards the destructive processes of suppuration and ulceration in the soft tissues, and to caries and necrosis in the bones, thus invading all the structures of the joints.

In this class of joint-diseases, we see inflammation occurring essentially as a destructive process, leading to the complete destruction of the joints; and unless arrested in its early stage by judicious treatment, terminating in loss of all the functions of the joint, and ankylosis as its most favorable result, and in a large proportion of cases leading either to amputation of the limb, or the more modern operation of excision of the joint, as the only chance of saving the limb or life of the patient. As to the order in which the several structures are invaded, and the liability to primary inflammation, the general tendency of surgical opinion is to the belief that strumous disease of the joints most frequently commences in the cancellous structure of the articular extremities of the bones, and this is probably due to the teaching of Sir B. Brodie, who laid much stress upon this form of disease. Mr. Adams's observation, however, has led him to the opinion that strumous disease of the joints commences most frequently in some of the ligaments of the joints, as the result of an injury, and that from these structures it extends to the synovial membrane. Next to the ligaments, he believes that strumous disease most frequently commences in the synovial membrane, as the result of exposure to cold and damp; and thirdly in order of frequency, that strumous disease commences in the cancellous structure of the articular extremities of the bones, as the result of exposure to cold and damp, and that the disease then generally takes the form of necrosis.

Dissections of hip-joint disease in the first stage, recorded by Mr. Aston Key, Mr. Coulson, and Mr. Adams, were adduced as examples of disease limited to the round ligament and adjacent synovial membrane, without general synovitis, ulceration of cartilage, or disease of the bones; and Mr. Adams observed that, in a large number of such cases, a reliable history of some accident is given, as preceding the joint affection, and in all probability laying the foundation of the disease. With regard to the curability of strumous disease of the joints, there can be no doubt that, so long as the affection is limited to the synovial mem-

brane, in the ordinary form of chronic inflammation, and the ligaments have not been destroyed, it admits of being cured, with restoration of motion to the joint; although the treatment may be very tedious, extending from a few months to perhaps two or three years. When the articular cartilages are to any considerable extent destroyed, it is no longer possible to restore motion, and the best result obtainable is fibrous ankylosis, leading ultimately to bony ankylosis.

From the disposition of the bone-disease to advance when this texture is much implicated, the prospects of ankylosis are remote and uncertain. Under favorable circumstances it may sometimes be obtained, but frequently fails, and amputation or excision must be resorted to. Amongst the poor, operative means may be adopted at an earlier period than in the wealthy class, time being a more important object; and Mr. Adams preferred excision at a comparatively early period, and before the local disease had exhausted the powers of the patient.

The treatment of strumous disease of the joint in the early stage, during which it is alone possible to obtain complete restoration of the joint, must be both constitutional and local. All active local treatment is at once negatived when the strumous constitutional condition of the patient is recognized; and these cases, Mr. Adams considered, were no longer to be treated by leeches, blisters, issues, moxas, the actual cautery, &c.; but all these methods of depletion and counter-irritation, still adopted by some surgeons in England, and more frequently by our continental neighbors, should be laid aside, and the object of treatment limited to securing rest to the joint by means of gutta-percha splints, &c., together with the application of perpetual warmth and moisture, by wet lint covered with oiled silk, aided by the use of the local vapor bath for a quarter of an hour three times a day. In this way local rest or rest to the joint affected is always secured, whilst general exercise is at the same time permitted. In disease of the ankle-joint, or its neighborhood, the use of a wooden leg contributes best to this result; and in disease of the knee or hip-joint, the use of crutches should be insisted upon as early as possible.

It is only in the later stage, when there is no decided increase of heat in the inflamed joint, that Mr. Adams resorts to the application of blisters, tincture of iodine, Scott's ointment, &c.

The constitutional treatment consists in the administration of cod-liver oil, iron, quinine, and strychnine. Mr. Adams entertains a high opinion of the usefulness of the hypophosphite of lime, in doses of from five to ten grains, with ten or twenty drops of the tinctura ferri, in water, three times a day, directly after meals. He also advises residence at the sea-side, on chalk hills, or in mountain air. With these hygienic advantages, and mild local treatment, the disease may be arrested in a large number of cases.

The next subject discussed was the *Treatment for the restoration of motion of a stiff joint, or partial ankylosis, by forcible flexion and extension under chloroform*. After alluding to the history of this operation, Mr. Adams stated that when appropriate cases are selected, having reference especially to the constitutional condition of the patient, and the cause of the ankylosis; and when the operation is done with proper precautions, and with less violence than is sometimes used, there appears to be no risk whatever of inflammatory mischief following the operation. The absence of inflammation, and especially of suppurative inflammation, as a result of the operation, is, in a great measure, to be explained by the subcutaneous nature of the injury inflicted; and in this respect it may be classed in the same category with dislocations and simple fractures, which are seldom, if ever, followed by suppurative inflammation.

One of the principal points which had engaged Mr. Adams's attention had been to determine the particular class of cases to which this treatment is applicable, and those in which it is either attended with danger, or in which it would probably fail in its object of restoring motion; and with this view he arranged all cases of partial ankylosis, or stiff joint, in three classes, viz.: 1st, strumous; 2d, rheumatic; and 3d, traumatic.

With regard to the *first class*, the strumous, the result of Mr. Adams's experience has been to prove that they are the most unfavorable for treatment by

forcible extension. In any scrofulous disease of a joint, where there is reason to believe that the articular cartilages, and other structures of the joint, have been much damaged—and in scrofulous diseases the articular cartilages are, as a general rule, destroyed to a greater or less extent—a stiff joint is certainly the best possible result for the patient; and to obtain this should be the object of the surgeon, every care being taken to secure ankylosis, with the limb in the most useful position. Any attempt to cover the lost mobility can only be made at the risk of producing serious inflammation; and if free motion should be obtained under chloroform, and no serious inflammation follow the procedure, the motion will not be permanently retained, owing to the damaged condition of the joint. Stiffening will gradually return, and the case must be considered a failure.

With respect to the *second class of cases*—the rheumatic—the result of Mr. Adams's experience has been as favorable as it has been unfavorable in the strumous class. In a large proportion of cases of stiff joint, or ankylosis, occurring in young adults after rheumatic fever, or as the result of that severe form which occurs during the progress of gonorrhœa, free and useful motion may be restored by forcible rupture of the adhesions and thickened ligamentous tissues.

There is one great peculiarity in the rheumatic form of inflammation, in whatever organ or structure it may occur—viz., a remarkable indisposition to supuration; and this is, in the highest degree, favorable to the operation of forcible extension of joints, the tendency of rheumatic inflammation being to the adhesive form.

In the *third class of cases*, viz., the traumatic, the results of forcible extension are also generally favorable, though more uncertain, and on the whole not equal to the results obtained in the rheumatic class.

The conclusions arrived at by Mr. Adams are as follows: 1. Forcible flexion and extension, under chloroform, of a stiff or partially ankylosed joint—false or fibrous ankylosis—is a procedure attended with very little risk, in properly selected cases, and when the force employed by the surgeon, and the subsequent movements, are not excessive, more especially at the first operation. 2. The cases should be selected with reference more especially to the constitutional condition of the patient, and the integrity of the articular cartilages. 3. Cases of partial ankylosis resulting from scrofulous diseases of the articulation, and those preceded by suppurative inflammation within the joint, whether occasioned by phlebitis, febrile affections, or external injury, are the least favorable for treatment. 4. The cases of partial ankylosis produced by acute rheumatic inflammation, especially when occurring in the adult, and those resulting from gonorrhœal or genital rheumatism, are the most favorable for treatment. 5. Traumatic cases, or those resulting from external injury, when occurring in the adult, and unaccompanied by suppurative inflammation, are also favorable for treatment in a large number of instances.

ART. 146.—On the so-called *Subcutaneous Condyloma*.

By Prof. H. KRESEL.

(*Archiv f. Dermatologie u. Syphilis*, 1, 1869; *Schmidt's Jahrbücher*, 1, 1869.)

The name of subcutaneous condylomata has been given to growths from the integument, varying from the size of a mustard seed to that of a pea, with surfaces generally flattened, but in some few instances rounded. In the latter form there is often found, as in variola, a central depression. In this depression may be observed with the naked eye the orifice of a follicle, which is either opened or closed by a comedo. The integument over these growths, which in exceptional cases attain the size of a sugar corn, is slightly shining, and of a rosy red color. The color, however, undergoes several changes with age and at the commencement of the terminal metamorphoses. The larger growths are circumscribed at their bases, though never pedunculated, and have about the consistency of molluscum contagiosum. As a rule, sensation is not

impaired and pain does not occur, except in cases of inflammation. By pressing with the thumb nail upon the sides of one of these growths a stearine-like plug of sebaceous matter exudes from the follicular opening. After an increase of this lateral compression there follows a roundish formation, which under a low power presents a glandular and cluster-like appearance. This formation has up to the present time been erroneously stated to be an acuminated condyloma which had taken its origin from the walls of the follicular cavity. Zeissl, in accordance with this view, had previously proposed to apply to the subcutaneous condyloma the name of endofollicular condyloma. But since observers have found the acuminated condyloma to be an hypertrophy of a pre-existing papilla with simultaneous overgrowth of its epidermic covering, this name is no longer tenable. The removed cluster-like formation is not, according to Zeissl, a new connective-tissue growth arising in the cavity of a follicle, but is as may be observed with a low power, a morbidly enlarged sebaceous gland, the duct of which before the application of pressure contained a mass of inspissated sebaceous material. The so-called subcutaneous condyloma therefore presents a retention cyst. The retention of inspissated serum is not, however, an essential point; this, according to Zeissl, consists rather in the *monstrous hypertrophy of the glandular portions of the follicle itself*.

After the degenerated follicle has been squeezed out there is a proportional loss of substance in the tissue of the cutis, two or three drops of blood are discharged, and the small wound heals in two or three days with a slight scar. The larger growths are best removed with curved scissors, the wound being afterwards cauterized. A relapse is not to be feared—a point of distinction between these growths and the acuminated condyloma. The larger growths may in consequence of irritation become inflamed or gangrenous; the smaller ones, on the other hand, when they are not compressed, generally shrivel. These shrivelled follicular tumors afterwards form the so-called comedones. The growths just described differ from the acuminated condylomata in their pathogenesis, as well as in their minute structure. The development of an acuminated condyloma on syphilitic and non-syphilitic soil always depends upon irritation of the affected parts by a physiological or a pathological secretion—sebaceous matter, sweat, mucous or muco-paralent secretion. The condylomata, as is well known, form on those parts of the genitals and surrounding regions over which there has been a long-continued flow of seborrhagic or gonorrhoeal secretion. The follicular affection described above affects those parts of the body which are never bathed in secretions of a similar kind. The independence of irritation on the part of cyst formation and hypertrophy may be recognized in the fact that the affection occurs without gonorrhœa, and in regions where no gonorrhoeal secretion can reach, as the arms, back, &c.

Zeissl believes that excessive and long-continued perspiration is one of the chief causes of the follicular affection here described.

ART. 147.—*On Pyæmia or Suppurative Fever; being the Astley Cooper Prize Essay for 1868.*

By PETER MURRAY BRAIDWOOD, M.D., L.R.C.S. Edinburgh; late President of the Royal Medical Society of Edinburgh.

"Pyæmia," Dr. Braidwood writes, "may be defined to be a fever which, attacking persons of all ages, is generally sequent on wounds, acute inflammation of bone, the puerperal state, surgical operations or other sources of purulent formation, and septic infection. It appears sometimes to prevail in an epidemic form. No one cause has as yet been found to produce this disease. The presence of pus is not necessary for its occurrence.

"The injection of putrid fluids, as also of chyme and other healthy fluids, induces in animals symptoms like those of suppurative fever, and pathological appearances in the viscera similar to those met with in the early stages of this disease. The symptoms most pathognomonic of suppurative fever, are a more or less sudden invasion on the fourth or fifth day after an operation, marked

generally by rigors or by depression of spirits and great anxiety, followed by profuse perspirations; the pulse is generally rapid: the tongue is furred, then loaded, and by-and-by, brown and dry; the skin assumes a dusky, sallow, and then a somewhat icteric tinge; there is very great prostration and emaciation, one or more of the joints swell, become red and painful, and may even suppurate; the breath has a heavy, sweetish, or purulent odor; and there is labored respiration, delirium, or other symptoms indicative of other organs being chiefly involved. This fever has no fixed duration, but it exhibits certain stages, and generally abates or becomes intensified on the 7th, 8th, 15th, 21st, 22d, or 28th days, dating from the first rigor or other initiatory symptom.

"It is characterized by the formation of secondary abscesses in the internal organs (most frequently in the lungs, liver, kidneys, spleen, and brain), and also in the joints and cellular tissue.

"I have designated pyæmia a fever, because it seems to me that, regarding its origin, symptoms, progress, and pathology, this disease is more nearly allied to the class of febrile affections than to any other group of diseases with which we are acquainted. This view is further confirmed by the only treatment which has as yet been followed by success. A liberally and properly regulated use of stimulants, and of nourishing diet, has alone been found efficacious in averting that serious issue which has hitherto compelled surgeons to view a rigor after operation as a death signal."

ART. 148.—*On the Causes of the Danger of Congestion Abscesses, and on their Treatment.*

By A. H. SCHOEMAKER.

(*Ned. Tijdsch.*, 1, Afd. p. 417; and *Schmidt's Jahrbücher*, No. 10, 1868.)

It is well known that the cause of the danger of congestion abscesses has often been sought for in the circumstance that the pus in these affections forms cavities, deviating passages, and long tracks. After the abscess has been opened, the greater part of the pus flows away, but a portion always remains behind in these passages; this comes into contact with the air passing from without, and putrefaction and putrid infection are consequently set up. For this reason attempts have been made to prevent the dangerous penetration of air and putrefaction, by applying plaster and thick bandages, by opening the abscess subcutaneously and under water, and to remove the pus by the employment of compression bandages, by making large openings, and by the introduction of drainage tubes. But it has already been learnt from experience that no foul suppuration occurs when wounds are kept uncovered and are freely open to the access of air. Roser's treatment of pyothorax proves in a striking manner that putrid infection is not always set up when atmospheric air stands in contact with stagnating pus in a warm place. After the pus has passed outward from the pleural cavity, not only is there a free access of air to the fluid left behind, but Roser blows air into the chest by force, and thus forces out still more of the purulent fluid. A quantity of pus then naturally remains within the chest in contact with air, and yet in Roser's cases no putrid infection followed, but in several instances rapid cure. On the other hand, cases have been observed in which after spontaneous or artificial opening of congestion abscesses when the pus had flowed away freely and directly, and when no air had penetrated into the cavity, disturbances in the constitution followed similar to those presented in cases of congestion abscesses where the pus had stagnated and where there had been a free access of air.

This constitutional disturbance is explained by Schoemaker in the following manner: As soon as pus has formed and an abscess has commenced, the adjacent tissues are pressed together. All that is sufficiently elastic and extensible to yield on compression, becomes stretched; that which is not sufficiently possessed of these characters or wants them altogether, is destroyed by compression, converted into pus, and furnishes its contribution of the contents of the purulent cavity. A kind of membranous covering, the *membrana pyogenica* of old

writers, is gradually formed around the pus. This consists partly of compressed tissues which had previously existed as connective tissue, muscles, vessels, fascia, &c.; and partly of newly-formed connective tissue and vessels. Whilst fresh pus is being constantly secreted, the inclosing membrane is stretched, and the limiting tissue and vessels become extended and flattened. The blood in these vessels meets with considerable resistance, and the changes of nutritive material consequently take place very slowly. Conditions are altered after the opening of the abscesses, whether this be spontaneous or artificial. After the discharge of pus, the stretching of the walls of the abscess is diminished, and the extension and flattening of the vessels cease. The resistance experienced by the blood before the opening of the abscess and before the discharge of its contents is now removed; there is a free circulation, and the nutritive changes at once become more active. This clearly explains the fact that in the past few days after the abscess has been opened much more pus is discharged than the cavity could have held; in this short time more pus is secreted than was formed during the whole time before the opening was made, more than was required during weeks, months, and years to bring about the abscess. That in connection with this wonderfully increased secretion from the blood a proportionally increased loss of nutritive material takes place, is a fact that can admit of no doubt.

For the explanation of the constitutional disturbances which often occurs rapidly after opening congestion abscesses, refuge has not generally been taken in the hypothesis that putrid infection can originate in consequence of the introduction of air. Certainly it is probable that through the prolonged changes in the nutritive material abnormal substances may have been taken up into the blood, and consequently such persons become affected, still, it is as yet unknown what chemical changes occur in the blood and cause disease. With the abnormally increased loss of nutritive material, the introduction of air may indeed act so far unfavorably, as is conceived, that it may accelerate it; but the introduction of air certainly is not the only cause of the serious symptoms. In the treatment of congestion abscesses, the consideration of the original lesion is a matter of the greatest importance. When this is unknown, or, when known, cannot be reached or removed, the opening of the abscess must be prevented as long as possible, and endeavors made to forbid all hurtful influences, such as tight and heavy articles of clothing. According to Schoemaker, art can do little more than this. The local application of iodine, quinine, &c. to congestion abscesses is considered as useless, and therefore to be avoided; also the employment of plasters, which have but little influence upon the progress of the primary lesion, and promote the opening of the abscess. Schoemaker holds that a subcutaneous opening is not indicated when the congestion abscess is at the point of being discharged, as the pus flows away more slowly from a spontaneous opening than from one made artificially. The introduction of drainage tubes, enlargement of the opening, &c., are to be avoided after the abscess has broken. A congestion abscess ought to be considered as a *non me tangere*, and a small counter-opening is only to be made when there is reason to fear a lower collection of pus. Should the pus become ichorous, irrigation with warm water, chlorine water, or with hyperoxide of manganese is indicated.

In conclusion, Shoemaker alludes to the necessity of supporting the strength of the patient by the usual hygienic measures and remedial agents.

ART. 149.—*On a New Method of Evacuating Fluid Collections.**

By M. VERNEUIL.

(*L'Union Médicale*, No. 3, 1889.)

M. Verneuil has made known the following new method for the evacuation of certain fluid collections; empyema, abscess of the liver, retention of the menses through imperforate condition of hymen, &c. This consists in a com-

* Read before the Société Impériale de Chirurgie, December 30, 1888.

bination of various proceedings previously known and employed for the same purpose.

The instrumental apparatus consists essentially in—1. An ordinary trocar for puncturing the collection of fluid. 2. A caoutchouc sound, similar to a drainage tube, and furnished with a central support; this tube is introduced through the canula of the trocar into the opened cavity; the support and afterwards the canula are withdrawn, and the tube allowed to remain; the fluid continues to flow by drops. 3. At the extremity of this tube is fitted a valve of goldbeater's skin, which serves to prevent the entrance of air before the discharge of fluid has ceased. This membranous valve is removed when one wishes to inject the cavity; it is afterwards reapplied. This apparatus is left in its position so long as may be deemed necessary for the modification of the walls of the normal cavity or the obliteration of the adventitious cavity.

M. Verneuil has employed this combination of means with success in a series of cases. Firstly, in a case of empyema, with perfect cure; secondly, in a case of retention of the menses in consequence of an imperforate hymen; thirdly, in a young girl affected with chronic abscess, resulting from Pott's disease; fourthly, in a patient suffering from an enormous abscess of the liver. In all these cases modifying injections containing chlorine or iodine were practised once or twice in the day, and had a fair share in the definite result, which was constantly favorable. In every instance the entrance of air, to which M. Verneuil, with so many other surgeons, attributes dangerous consequences, was successfully prevented.

ART. 150.—On Tumors.

By Dr. C. HEITZMANN.

(*Wiener Medicinische Wochenschrift*, 87—89, 1868; *Schmidt's Jahrbücher*, No. 2, 1869.)

The primary development of a tumor may be favored by irritation, disposition, and infection. The irritation may be continuous, or frequently recurrent, mechanical or chemical. A single severe and traumatic irritation also has ere this given rise to the formation of a tumor. That on local irritation from without a tumor growth follows with certain individuals in certain tissues only, is explained by the supposition of a local specific irritation through material produced in the body itself—*disposition*. The disposition may be local as well as general; in many instances it is hereditary, and increases with advancing age. With regard to infection, that of one individual through another is to be distinguished from individual self-infection. Whether a true pseudoplasm may generate a transferable contagium is still questionable. Certain tumors, however, cause local infection in surrounding parts, since numerous secondary deposits often arise in the neighborhood of the parent growth, which may become fused into a common tumor, as in chondroma, sarcoma, carcinoma. Either the nearest lymphatic glands are affected with the same disease through displacement of infectious tissue elements, or similar tumor growths are formed in more remote organs, whither particles of the tumor taken up into the circulation were floated—embolic metastases. The latter complication occurs especially with carcinoma, less frequently with chondroma and sarcoma. Those organs which have a great tendency for the production of primary tumors are not the seats of metastatic growths; the outer integument, mucous membranes, the eyes, the nose, and the several glands. The lungs, liver, kidneys, and serous membranes, which very frequently present metastatic growths, are very rarely affected with primary formations. The lymphatic glands, the brain, and the muscles and bones, present both primary and secondary eruptions. Tumors (pseudoplasms) consist of elements and tissues which are identical with, or at least similar to, those of the normal body. They may be divided histologically as follows (Virchow):—

1. Simple *histoid tumors*, consisting of simple tissues, and corresponding in their construction to some known tissue of the body.

2. *Organoid tumors*: made up of several tissues, often with a determinate typical arrangement of the parts, resembling a certain organ of the body.

3. *Teratoid tumors*: combinations of several organs, which correspond to an imperfect reproduction of one complete system of the body.

4. *Combination tumors*: several forms of tumor associated together.

Tumors may be thus divided, according to Billroth, with regard to their localization.

1. *Solitary tumors*.

2. *Multiple tumors*: a series of similarly organized growths in one fixed tissue system only.

3. *Infectious tumors*: those which affect the nearest lymphatic glands and more remote organs.

Every tumor may be solitary and multiple; the infectious tumors are generally solitary at first.

Clinically, tumors may be distinguished as *benign* and *malignant*. The *benign growths* are composed of uniform tissues, commence either as solitary or multiple formations, and are not infectious, that is to say, they are purely local diseases. They act injuriously by causing compression and destruction of the surrounding tissues, and impairing their function. *Malignant tumors* are either the expression of some general dyscrasia or soon result in such; they are also infectious.

The peculiarities by which benign can generally be distinguished from malignant tumors are not well marked. One may, however, decide the degree of malignity.

Benign tumors are quite free from pain or never continuously painful, except when they exert pressure or traction, or are themselves subjected to hurtful influences. Neuroma is to be excepted. *Malignant tumors* in general are, or become painful, on account of the tension of surrounding tissue.

The *benign tumors* are in most instances sharply defined; the *malignant* frequently in the form of infiltration, and without strict limits; a malignant new formation, however, may be circumscribed along most of its extent. *Malignant growths* generally increase rapidly in size; some forms of cancer, however, grow slowly for years, and a relatively benign form of cystosarcoma will grow in a few years to the size of a child's head.

The general covering of the body remains movable over *benign* formations, except when pressure causes inflammation and subsequent adhesion of the skin. *Malignant tumors* involve the skin early, except where they are separated from this structure by aponeurosis or serous membranes.

Simultaneous secondary deposition at several places, or in different systems of the organism, does not prove *malignity*. *Benign formations*, as warts, naevi, chondromata, and lipomata and fibromatous tumors, come on most frequently as multiple deposits in a certain tissue. Voluminous cancers, and also flat epithelial cancer, almost always remain solitary.

The neighboring lymphatic glands swell with *malignant* new formations. Here the concomitant enlargement of inflammation and suppuration which occurs with *benign* growths has to be distinguished from infiltration. With concomitant swelling the hardness is never considerable, and the sensibility not increased, except through inflammation; the enlargement is reduced by antiphlogistic treatment, and disappears when the inflammation or the original tumor is removed. With infiltration there is considerable induration and tenderness, and but slight mobility. The occurrence of glandular swelling depends principally upon the earlier or later softening of the original tumor. The richer a sarcoma or cancerous tumor in cellular elements or bloodvessels, and the more infiltrated the neighborhood of the growth, so much the more readily will the lymphatic glands become infected, and more speedily will metastases occur.

Malignant formations soon commence to soften at several places simultaneously, according to the nature of their seat; this takes place always in soft glandular growths and in cancer of the mamma; in the liver it does not occur until a late period. Epithelial cancer breaks up most frequently and rapidly.

Benign pseudoplasms may be affected with superficial inflammation, suppara-

tion, and ulceration, in consequence of pressure, the weight of the tumor, friction of the clothes, &c.

Though irritation from remedial agents and injury from probing, or from exploratory oncotomy, even after the breaking up of a *malignant* tumor, the process of fungation becomes more active, and ulceration extends along the superficial surface. After softening of relatively *benign* tumors, the growth becomes more active, particularly with cystosarcoma, and generally when warmth and friction have been applied.

Benign tumors do not return after complete removal; *malignant* tumors, on the other hand, return very readily. Sarcoma shows a great tendency to local relapse.

Malignant infectious tumors generate dyscrasia; they may also multiply in the form of circumscribed metastases by means of embolic detachment of tissue particles.

Heitzmann distinguishes tumors in the following manner:—

1. Tumors which make their appearance both as solitary and multiple growths, which grow very slowly, which do not become infectious even after a life-long existence, and which do not return on extirpation. These are the proper *benign* growths, such as fibroma, lipoma, chondroma, osteoma, angioma, neuroma, and epidermal tumors.

2. Tumors which increase rapidly at one time, slowly at another, which often commence as multiple growths, which often relapse locally after extirpation, and which do not infect the lymphatic glands, but destroy the organism through their rapid extension and through their multiplication, resulting from embolic metastasis. These are the so-called suspected tumors, such as sarcoma, adenoma, soft fungating chondroma, and lymphoma.

3. Tumors which grow rapidly, which infect the lymphatic glands and the organism, and which readily return after extirpation; the malignant growths, as the different forms of cancer.

ART. 151.—*Is Cancer a Blood-disease?*

(*British Medical Journal*, April 10.)

The question raised by Mr. De Morgan at the last meeting of the Pathological Society, as to the constitutional nature of cancer, is one of the highest importance. The almost universal opinion that cancer is what is called a blood-disease, is founded partly on the very frequent recurrence of the disease after operation; partly on its wide distribution when once formed; and partly on the evidence, so frequently afforded, of hereditary tendency.

A protest against this opinion was raised by Mr. Moore: and Mr. De Morgan has taken the same view. It was argued at the Society that a great, if not equal tendency to recurrence is found in the case of tumors which are not cancerous, as in the specimen of cystic sarcoma exhibited at the meeting; that diseases not cancerous are distributed when once formed; and that hereditary tendency is as strongly marked in the simplest tumors as in cancer—as, for example, in a case of hereditary fatty tumor mentioned by Mr. De Morgan. It is indeed familiar to all that peculiarities of nutrition in the parent, of whatever kind, are constantly transmitted to the offspring.

The argument advanced by those who deny the constitutional nature, in the ordinary acceptation of the term, of primary cancer, is that prior to, and for a long time after the appearance of a cancerous tumor, the constitution is distinguished, in most cases, by its healthy characters, and by the absence of any appearances which would indicate disease.

Mr. T. Smith asked, if the evidence of constitutional taint was absent in cancer, where could it be found? What was a blood-disease, if cancer were not? Mr. De Morgan referred to the constitutional characters seen in struma before any deposit of strumous matter took place; and Mr. Moore alluded to smallpox as an instance of what one would expect if the blood were primarily diseased—viz., the general and simultaneous appearance of the disease over the body—whereas, in fact, smallpox was generated in blood from a matter

first introduced into it, which interjected or inhaled substance was equivalent to the primary tumor out of which general cancer spread.

Then, again, they argue that, if in these non-cancerous tumors we get recurrence and distribution, as in the case presented, it affords a strong ground for belief that the same cause is in operation in both cases; and that the *onus probandi* of the contrary rests with those who maintain that the recurrence and distribution in cancer are evidences of previous general tendency to disease. Mr. De Morgan and Mr. Moore look on this recurrence in both cases as an evidence that some of the elements of the original disease are carried in the liquids of the body, in bloodvessels, or lymphatics, or spaces in the connective tissue, to a greater or less distance; the extent to which this tendency exists being a question of more or less: that as we find some forms of cancer far more disposed to distribution than others, so cancerous tumors generally may be more disposed to it than other tumors.

The great question which is thus raised is as to the propriety of early operation. If in the first place, the disease is purely local, but with a structure which allows of the free dissemination of its elements, it is obvious that the earlier and more completely it is removed, the greater the prospect of future immunity. Mr. T. Smith's observation, that it ought to be shown that early and thorough operations do preserve the patient from recurrence, is important; but it is obvious that no logical proof can be given, since surgeons rarely or never see the disease in its early stages.

ART. 152.—On a New and Successful Method of Treating certain forms of Cancer.

By ALEXANDER MARSDEN, M.D., F.R.C.S. Edin., Surgeon to the Cancer Hospital.

The plan of treatment recommended by Dr. Marsden is not intended, the author states, to supersede the use of the knife, but to be used for those cases in which that instrument would be useless, or in which a good caustic can do the work better; as such he offers it to the profession at large.

The treatment is by arsenical mucilage, which, it appears, is applicable to all forms of cancer except the cystic or colloid, provided they have not exceeded certain limits—viz., four square inches, and then not more than a fourth must be attacked at once. When a cancer has exceeded this limit, Dr. Marsden knows of no means that ought to be used to extirpate it but the knife. The paste may be applied to cancers situated on any part of the body, except inside the mouth or nose—parts, in fact, where the use of the curative agent would be dangerous. Dr. Marsden does not recommend its use when the disease is deeply seated, but for many cancers on or near the surface. This mucilage, he adds, is the least painful and most certain remedy he knows. The paste is made according to the following formula:—

Arsenious acid, ʒij.

Mucilage of gum acacia, ʒj.

To be well mixed together, and made into a thick paste.

The patient's health having been attended to, the whole of the cancerous surface is to be spread over with this paste, provided it is not more than a square inch, and it must be sufficiently thick not to run; a piece of dry lint is then pressed on to it, overlapping the paste half an inch all round; this must be left for a short period, say ten minutes, by which time any superabundant paste will have been taken up by the extra lint, which is then to be carefully cut away with a sharp pair of scissors; in an hour, or at most two, the lint covering the paste will have become dry and hard, and it will adhere closely and firmly to the cancer. In the course of twenty-four hours the surrounding parts will commence to swell, become red, and to a certain extent inflamed, and the patient will experience a drawing pain. In general this is by no means severe, and does not last more than one or two days. At the expiration of

from forty-eight hours to three days, according to circumstances, bread and water poultices are to be constantly applied and changed every two or three hours; the pain, redness, and swelling will by this time have subsided, and a distinct line of demarcation be seen extending entirely around the cancerous mass; the skin ulcerates, and a fissure is formed, separating the slough from the healthy tissues; the fissure continues to deepen until the entire cancer comes away, leaving a healthy cup-like depression, varying in size and depth according to the mass removed. Healthy granulation will now commence, and it will be well to continue the poultices for some time; indeed, it often happens that no other application need be used. In some instances, the author writes, only one application will be necessary, but it will in general be found advisable to apply it every second or third morning till the desired effect is produced. When it is intended to re-apply the paste the former piece of lint must be carefully soaked for some time with warm (not hot) water, and after it has come away, the mucilage be used as before, recollecting that until the last application that is intended has been made, poultices as a *rule* are not to be used, unless under special circumstances, and that after a decided line of demarcation has been formed no more paste is to be applied.

Some weakly patients, Dr. Marsden writes, will be benefited by a tonic both before and during the application. The following is what he frequently gives:—

Hydrochloric acid, ℥j.

Mixture of opium, ℥j.

Compound tincture of bark, ℥iv. Mix.

A teaspoonful to be taken in a wineglass of water twice or thrice a day.

ART. 153—On Syphilis.

By E. H. GREGORY, M.D., Adjunct Professor of Surgery in the St. Louis Medical College.

(*The St. Louis Medical and Surgical Journal*, November 10, 1868.)

In speaking of the treatment of syphilis Dr. Gregory says that every case may be treated without mercury; many cases do not admit of it at all; but the moderate and judicious use of mercury in many cases removes the existing accident, and renders the patient less liable to relapse.

Diday abandoned a series of cases of syphilis to nature, and proved beyond dispute the fact that the disease is susceptible of spontaneous cure. "Do not forget this fact," Dr. Gregory adds; "ever remember that, however bad your case, there is a natural tendency to recovery. Regulate carefully and strictly the hygiene of your patient; sustain the powers and correct deviations from health upon general principles, always inspiring hope. Never use mercury in the primary sore, if it is disposed to heal during the first week; never when a chancre is inflamed or phagedenic; never at any period of the disease when your patient is feverish. Mercury does not lessen the chance of secondary symptoms; as a general rule, it is well to wait for secondary symptoms before appealing to the mineral, and then antimonials may cure. The most reliable agent, after all, in the earlier stages of syphilis, is mercury, and, as the disease progresses, iodine begins to exercise a therapeutic influence, and in the last stages, a combination of the two becomes most important. At first mercury should be given cautiously, and in small and infrequent doses. Sound the susceptibilities of your patient. Our formulæ are in early periods:—

"℞ Protiodidi hydrarg., ℥j.

Ext. conii, ℥j.

Misce. Fiant pil. No. xxx.

"S.—One pill a day for a time, gradually increasing to three pills daily."

"℞ Hydrarg. cum creta, ℥ij.

Quiniæ sulph., ℥j.

Misce. Fiant pil. No. xx.

"S.—One pill three times daily.

"The bichloride of mercury in doses of one-sixteenth to one-twelfth of a grain, three times daily, answers well in many cases; where there is a tendency to diarrhoea, combine opium with the mercury.

"Donovan's solution is a valuable preparation, given in from five to eight drops three times daily after meals. Mercury may sometimes be beneficially administered by the rectum, consisting of half a drachm of mercurial ointment, made stiff with wax or tallow, and repeated twice a day until the gums are slightly affected. When the system is much dilapidated, mercurialization is best attained by fumigation. All that is necessary is a blanket carefully secured about the neck; the patient, completely nude, is seated in a willow chair, beneath which is placed a shallow pan half filled with water, into which is put a brick heated to redness, and upon which is placed a scruple of calomel. In five or ten minutes profuse perspiration is induced; the calomel is evaporated in fifteen or twenty minutes, after which the patient is enveloped in the blanket and placed in bed. If the patient's strength is fair, every night is not too often for the repetition of the baths, or from one to three times a week may be sufficient. During the time, and at all times, the patient should wear flannel next the skin. The baths may be continued from four to five weeks.

"The topical application of mercury is proper when the disease is of long standing; when the surface is covered with sores; when there is deep involvement of the bones; or when the system is exhausted by suffering or long courses of the mineral by the mouth.

"Mercury may also be given by inunction, from half a drachm to a drachm, rubbed upon the inner sides of the arms and thighs once a day, until the constitutional effects of the medicine become apparent by the state of the gums, breath, and saliva.

"Simple and medicated baths are most useful, particularly beneficial in rupial ulcers, rheumatic pains of bones and joints. A common salt hot bath, or one containing carbonate of soda or potassa, are most excellent detergents in the foul ulcers so common in the advanced stages of syphilis.

"Most of you are familiar with this formula:—

"R Potass. iodidi, ʒvij.
Bichloridi hydrarg., gr. iij—v
Ext. conii, ʒj.
Syrup. stillingia, ʒij.
Syrup. sarsap. comp., ʒij.
Tinct. cinchonæ, ʒijj.

"Misce. S.—Teaspoonful three times daily."

"This combination we use in the latter stages of the disease. It is well to give the dose with a teaspoonful of water, and one or two hours after meals.

"There are certain rules of treatment applicable to all local affections. Thus the surgeon does not hesitate to remove a dead bone, open abscesses, divide fasciæ, trim off ragged, undermined edges of ulcer, placing them in a suitable condition for speedy separation. Cleanliness is important, Fœtor is allayed by carbolic acid, or the free use of chlorine preparations. When much inflammation is present, emollients are important. Touching weak sores or phagedenic sores with nitrate of silver or nitric acid at first once a day, and subsequently every third or fourth day, according to the condition and progress of the sore. The potassio-tartrate of iron is not to be forgotten as a local application to ugly ulcers; one drachm to the ounce of water. Dust ulcers with calomel or subnitrate of bismuth.

"For syphilitic affections of the nose we rely mainly on the chloride of zinc, one to three grains to the ounce of water, as a local application. The involved parts should be frequently cleansed. The nasal douche is valuable. Powder used as snuff, as the subnitrate of bismuth and tannic acid, may be used once or twice daily. I have touched with the liquid nitrate of mercury a deep ulcer in the naso-pharyngeal space. After three days, if there is no improvement, it will be proper to reapply the escharotic; meanwhile, we will use the diluted tincture of iodine. A solution of the permanganate of potassa, two to five

grains to the ounce, is a useful remedy for troublesome syphilitic affections of the nasal passages.

"The remedy for syphilitic iritis is mercury. Be most earnest and assiduous, ever mindful of the importance of the organ involved. You have observed the effect of mercury and iodide of potassium in these cases; the turpentine of Carmichael will not do.

"For the affections of the bones and periosteum use the iodide of potassium; severe suffering is often relieved as by magic, the iodide of potassium proving a most potent anodyne. Leeches, blisters, and the tincture of iodine are important applications to nodes. Sometimes the pain and tension of a node may be promptly relieved by subcutaneous incision, effected by a delicate bistoury; necrosed bones must be removed, and carious bones scraped and its surface dusted with red precipitate; diffused hypertrophy of bone usually disappears under constitutional treatment. Exostoses, when free from mechanical inconvenience, are not to be interfered with.

"Syphilitic sarcocele is a common disorder, known by its history, by its implicating especially the body of the testicle, and its extreme indolence; it is to be cured by constitutional measures. We are at this time treating a case most satisfactorily with bichloride of mercury and iodide of potassium. The prescription we have already given.

"Condylomatous growths are most constant symptoms. The same general treatment is applicable here as for sarcocele. The chromic acid applied once in a day is the best agent to destroy the tumors; in the interval of the applications the surfaces should be covered with calomel, subnitrate of bismuth, or the carbonate of zinc. The parts should be frequently cleansed with chlorinated soda.

"The treatment of congenital syphilis is like that for the acquired. The most approved hygienic measures, flannel next the skin, high, dry, airy situations, and the best artificial food possible. When there is much emaciation, cod-liver oil is a most valuable adjunct to mercury, which latter displays its effects most advantageously in hereditary syphilis. The bichloride is a valuable mercurial in these cases, in doses varying from the fortieth to the fiftieth of a grain three times a day, dissolved in a few drops of Huxham's tincture of bark. Where there is much gastro-intestinal irritation the mercurial inunction would be best, say a scruple rubbed upon the belly—removing temporarily the flannel bandage—once a day till all evidence of the disease has disappeared."

ART. 154.—On Inoculation of Syphilis.

By Dr. VINCENZO TANTURRI.

(*Il Morgagni*, ix. 3; *Schmidt's Jahrbücher*, No. 2, 1869.)

This contribution gives the results of numerous pathological experiments with syphilitic inoculation.

Auto-inoculation with matter taken from syphilitic ecthyma pustules.—The number of investigations on this point amounted to several hundred; of these eight are fully reported. The inoculation was performed by making from six to ten lancet punctures, the seat of the inoculation being afterwards covered by a watch-glass. In the course of from twenty-four to forty-eight hours, red spots were observed which varied in shape according to the form of the incisions, and in the midst of these, small vesicles which could be scarcely seen with the naked eye. By the third day the redness had increased, the surrounding tissue was infiltrated, and a crust had formed in the centre over an ulcerous base; about the fourth or fifth day the crust had become thicker and the ulcer deeper; between the tenth and twelfth days there was recovery, resulting in the formation of a level cicatrix with a reddish-brown color. The contents of the pustule could be repeatedly re-inoculated in the same manner. Inoculability was most pronounced shortly after the first appearance of the pustular syphilide; with advanced development or a retrogressive stage of the eruption it succeeded less frequently. Inoculation produced, with repeated generation, positive results

on most regions of the outer integument; when practised extensively on mucous membranes, on the other hand, it always failed. In two individuals matter from an ecthymatous pustule was inoculated into the right thigh, and pus from a soft chancre into the corresponding limb of the left side. After the third day the pustule formed from the ecthymatous secretion closely resembled that formed by the inoculation of pus from the soft sore; the two pustules differed only in the one respect, that matter from the sore on the left side when re-inoculated on mucous membrane gave rise to an ulcer, whilst matter from the ecthymatous sore on the right thigh could not be inoculated with success on the same tissue.

Transfer of the discharge from secondary ulcers of mucous membranes to the skin and mucous membranes of syphilitic subjects.—All attempted inoculations with the discharge from ulcers of the mouth and fauces failed. In two cases the pus from secondary syphilitic ulcers of the vagina was inoculated, with positive results on mucous membrane, and with negative results on the external integument. The secondary ulcers of mucous membranes ought not to be confounded with suppurating gummy growths; numerous inoculations with the contents of these were attended with no results.

Inoculation on syphilitic subjects of matter secreted by broad condylomata.—In thirty-four cases inoculation of the thin serous secretion was performed on the integument without result, and the same thing occurred in three cases in which the secreted fluid from a secondary syphilitic excrescence on the fauces was applied both to skin and mucous membrane. Out of thirty-two auto-inoculations on the skin and mucous membrane with the discharge of ulcerating broad condylomata, five only—and these were on the skin—were attended with success.

Auto-inoculation with the purulent secretion of irritated infecting chancres.—This failed in most instances; in a very few cases only were ulcers formed on the external integument, which could be transplanted through several generations on skin, but not on mucous membrane.

From these results, Tantarri derives the conclusion that whilst the soft chancre can be inoculated both on skin and mucous membrane, the pustular syphilides, the secondary ulcers of mucous membranes, and the broad condylomata can be inoculated only on a similar tissue to that in which they were originally seated. All growths produced by the inoculation of the products of the dyscrasia are therefore to be considered as ulceroids, which are sharply divided from the soft chancre by the fact that their capacity for inoculation is restricted to a tissue similar to that on which they are seated.

ART. 155.—On the Local Treatment of Syphilis.

By Prof. SIGMUND.

(*Wiener Med. Presse*, 1867; *Schmidt's Jahrbücher*, No. 11, 1868.)

Since it has been learnt from experience that in the majority of cases eradication of the primary local symptoms of syphilitic disease cannot prevent the general affection, the advantages of a local treatment have been underrated. But the authenticated cases of a successful abortive treatment on the one hand, and the necessity on the other of preventing auto-inoculation, enforce a careful treatment of the local syphilitic symptoms.

The first symptoms of syphilis consist in a papule and an erosion with concomitant infiltration. Cicatrization follows after the application of mild dressings and attention to cleanliness: the lotion being of weak solutions of chlorate of potash, chloride of lime, biborate of soda, or sulphate of zinc. Higher degrees of inflammation necessitate the application of cold to the excoriated spots, and fomentations with sedative agents, among which preparations of lead take the first place (basic acetate of lead, 30 grammes to 180 grammes of water; acetate of lead and sulphate of zinc, 3.75 grammes to 90 grammes of water, containing opium). This agent is especially indicated in cases of painful indurations and papule on the prepuce and glans penis, on the scrotum, and on

the labia and the mucous membrane of the vulva of pregnant and lying-in women. With tardy removal of the deceased and healthy secretion, it is necessary in cases of phymosis to perform circumcision, and with much enlargement of the labia majora the removal of these appendages should be undertaken. Ulcers, with pus adhering here and there to the exposed tissues, should be brushed over with caustic agents; sulphate of copper, finely powdered or dissolved in water, 72 centigrammes to 3.75 grammes, is useful, and also a solution of nitrate of silver—1.25 grammes to 3.75 grammes of water. Other efficacious agents, as red precipitate, chloride of zinc, and corrosive sublimate, cannot be so well applied in private practice, as the patient is generally left to his own guidance. After one or more cauterizations the ulcer, when presenting pure pus and a granulating surface, is to be dressed with a weak solution of the same agents, the strength being from 12 to 24 centigrammes to 3.75 grammes of distilled water, or with an ointment. Under this treatment the formation of epithelium and cicatrization is brought about. The removal of the induration takes place later. Erosions, with slight secretion, seated upon indurations, should be covered by gray plaster. In cases of lesions of the vagina, the female urethra, the tongue, the tonsils, and the lips, where dressings are not applicable, cauterization should be frequently performed, and great attention paid to cleanliness. For ulcers and erosions in the male urethra, caustic agents should be applied, and a piece of bougie, about one inch in length, be introduced and retained by means of adhesive plaster. Papules, indurations, and ulcers seated on the inner surface and on the margin of the prepuce, require in most instances the removal of the skin. By this proceeding the surgeon may prevent extensive and wide-spread destruction of the glans and urethra. Isolated dry papules covered with epithelium and situated on the genitals, the mouth, and other parts of the body, should be painted with a solution of corrosive sublimate in ether or spirits of wine (1 part to 8.) Suppurating papules, however, can only be dressed with a weak solution (6 centigrammes to 30 grammes.) Papules breaking down into pus are to be treated in the same way as ulcers.

Pregnant women affected with considerable induration about the genitals should at once be treated by inunction. Before delivery those indurations which are likely to be much irritated during parturition should for the most part be removed. For lying-in women coming under treatment with similar affections, the surgeon should prescribe the inunction cure about the fourteenth day after the delivery.

With regard to caustic agents for ulcers, the sulphate of copper in a saturated solution is of all useful agents the best, as it acts thoroughly on the tissues saturated with pus, and does not destroy the surrounding integument. For the destruction of deeply-seated tubercles caustic potash is the best agent. The action of this can be immediately arrested by adding acetic acid, whilst the parts adjacent to the wound are to be covered with fat.

Papules in the mouth and on the fauces are cauterized by Sigmund with a solution of corrosive sublimate, but in this proceeding caution is recommended. Simple erosions on hardened parts in the mouth and other parts should be covered by good adhesive plaster of soap and mercury. A mixture of corrosive sublimate and collodion is not to be recommended, as this prevents the discharge of the secretion. All the other remedies recommended by old and recent writers are rejected by Sigmund, as these form eschars, beneath which pus collects, and, moreover, because they stain the skin and soil the linen. The actual cautery is a most convenient destructive agent for papules and ulcers the anatomical seat of which permits such treatment. The eschar thus formed adheres closely, whilst cicatrization goes on at the loosened edges. This proceeding, however, is applied only in a few cases, as the sight of the instruments, when these are once known to the patient, excites a panic of terror.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 156.—*Two Cases of Trephining.*

By Dr. COPMANN.

(Berliner klinische Wochenschrift, No. 8, 1869.)

Marie E., aged eleven years, came under the care of Dr. Copmann on November 16th, 1867, to be treated for supposed chronic encephalitis. The child, well-developed for its age, complained of lancinating pains in the frontal region and of vomiting. The latter symptom had lasted for two days, and immediately followed the introduction of food. The child, when questioned, declared that she had received a few days previously a violent blow upon the head with a sharp book. In fact, traces of an injury were found at the posterior part of the right parietal bone. At this region was observed a wound about four lines in length, the margins of which were swollen, hot and painful. This wound was opened with a probe, and exit given to about a teaspoonful of thick pus; the pain of the head was much relieved after this little operation. As the child suffered much, the exploration of the deep-seated parts of the wound was put off until another day. The tongue was dry, there was great thirst, loss of appetite, constipation; the pulse was slow, the papilla slightly dilated; intelligence unimpaired.

Treatment.—Cataplasms were applied over the wound, and enemata administered.

Nov. 17th.—Has had a calm night; no vomiting. Pulse more rapid; no cephalalgia; pupils still dilated. Slight suppuration of the wound, which remains constantly painful.

Nov. 18th.—*Statu quo.*

Nov. 19th.—Same state as yesterday. The wound not very painful, and can now be explored with a probe. Dr. Copmann made out the existence of fracture of the cranium, with depression of a small piece of bone about three lines in extent. The borders of the fracture are sharp and dentated.

Nov. 20th.—Vomiting appeared in the course of the night; the pulse slower. The wound was enlarged by means of an incision in order to permit the introduction of the finger; about half of a teaspoonful of viscid pus flowed away. Trephining was thought of, but the good state of the strength of the patient, and her early age, induced Dr. Copmann to put off the operation.

Nov. 21st.—Violent cephalalgia in the anterior half of the head. General condition the same. Four leeches applied to the temples brought rapid relief.

Nov. 24th.—The pains have returned with renewed intensity in the anterior part of the head. A fresh application of leeches brought but slight relief. Slight convulsive movements were observed in the arms and legs. The wound is very painful, suppuration scanty. Pulse slow; transient delirium.

Nov. 25th.—Patient has had a very restless night, and has been affected with delirium and vomiting. Calomel has been administered and leeches applied, but without success. It was decided to perform trephining on the evening of the 26th. The wound was then enlarged; the trephine applied, and an osseous splinter removed which had been implanted vertically into the dura mater; the dura mater was of a deep blue color, and presented a small orifice of the size of a pin's head, from which there was a discharge of pus. A loose bandage was applied over the wound, and ice placed on the head; calomel was administered internally.

Fresh leeches were applied on the following morning. The patient, however, did not regain consciousness; the clonic convulsions became general, and death took place on the morning of the 27th.

Nov. 30th.—Autopsy. The cranial vault was perfectly intact, with the ex-

ception of the orifice produced by the trephine; all fragments had been removed at the time of the operation. The dura mater presented a wound between three and four lines in length, and about one and a half line in breadth; below the dura mater this wound extended for about three lines into the cerebral mass, and at this spot there was a small abscess of the size of a filbert. On the dura mater were found, in the centre of pus, five small osseous scales. There was marked vascularity of the brain and its membranes; below the dura mater was a thick layer of pus, which extended over the whole of the anterior half of the hemisphere.

CASE 2.—On May 22d, 1868, at six in the evening, P. H. fell from a lofty scaffold, and was immediately carried to the hospital.

The patient retained his reason, but answered slowly to questions which were addressed to him; the pulse full and slow. Over the right parietal bone was a wound about two inches in length, and directed from the right to the left side; from this there flowed a great quantity of blood. There was also a second wound less deep, parallel to the first wound, and one inch and a half in length. On examining the larger wound by means of a probe, there was found a cleft several lines in breadth, and more than an inch in length, which had rough osseous borders. The fragment corresponding to this cleft was depressed to about the depth of a quarter of an inch, and was immovable. About half an hour after the admission of the patient trephining was performed, the pulse at the time being slow, and the intelligence slightly obtuse. Chloroform was not administered, and indeed this agent if not hurtful would have been unnecessary, for during the whole operation, which lasted for nearly one hour, the patient manifested no signs of pain. In order to practise trephining the two parallel wounds were united by a transverse incision, and the rectangular flap thus formed was turned over. The hemorrhage was unimportant: the osseous cleft was completely exposed; it measured four lines in breadth and one and a half inch in length. As it was impossible to extract the depressed osseous fragment the trephine was applied to the centre of the solution of continuity. The circle of osseous tissue being once removed, it was an easy matter to extract the implicated fragment. It was twenty-one lines in length and twelve lines in breadth. Three or four small osseous fragments were at the same time removed by forceps. The wound was then washed with great care: the dura mater was intact. After the hemorrhage had been arrested the wound was covered by moist charpie. Ice was then applied to the head. The pulse was constantly slow, small, and compressible. The patient answered questions that were put to him, and respired normally.

The general condition of the patient remained excellent on the following day: there was no reaction; the man complained of a headache and of want of appetite.

The third day after the operation, the wound was suppurating and had commenced to granulate. The state of the patient was excellent up to June 10th, when in the middle of the day there was a sudden but slight feverish attack. In the evening the fever had disappeared.

June 11th.—Has had a good night. Wound looking well. No cephalalgia, pulse low. About one hour after dinner the patient was attacked with violent rigors, which lasted for nearly one hour, and were then followed by a state of heat. Sulphate of quinine ordered.

June 12th.—No chills this morning; but a state of heat at 3 o'clock, with acceleration of the pulse.

June 16th.—Has had no more feverish attacks. Wound looking well. Sulphate of quinine to be discontinued.

June 26th.—The patient remains up from bed during the day and takes walks. The wound is cicatrizing: two large scales of bones have been removed.

July 14th.—To-day the patient has had a severe rigor, lasting for half an hour, and followed by fever. The wound is no longer depressed, as previously, but is swollen: the granulations are pale, and the suppuration diminished. No free scales of bone can be found by means of the probe.

July 15th.—More febrile attacks: the wound looking better.

July 17th.—General condition excellent. The wound is cicatrizing.

From time to time Dr. Copmann was obliged to extract small scales of bone.

On August 18th cicatrization was almost complete. The patient left the hospital on September 14th. The scar was covered by a plate of copper inclosed in a double sheet of gutta serena.

The patient was again seen on November 10th. He was then considered as cured, and had taken again to his former occupation.

Dr. Copman insists upon the advantages of immediate trephining. He is persuaded that he would have saved his first patient if he had decided upon operating at an early period.

ART. 157.—*On the Origin by Contagion of Catarrhal Conjunctivitis.*

By Professor GOSSELIN.

(*Archives Générales de Médecine*, No. 4, 1869.)

Professor Gosselin gives full reports of several cases of conjunctivitis which tend to prove that the conjunctiva, like other mucous membranes which are exposed to the air—as, for example, those of the mouth, larynx, and pharynx—is subject to contagious inflammations, and particularly that simple catarrhal and muco-purulent conjunctivitis may be engendered:—

1. By other conjunctivites equally catarrhal and non-purulent;
2. By actively purulent conjunctivitis;
3. By granular conjunctivitis or blepharitis consequent or not upon suppurative inflammations.

The following conclusions are given with regard to prophylactic measures:—

1. To separate, if possible, the affected subjects from those who are not affected.
2. In cases where isolation is not possible, to recommend the use of handkerchiefs and towels exclusively given up to the patients.
3. To avoid all contact between the faces of those affected and of those remaining unattacked.
4. To watch carefully the eyes of individuals who live in the same place, and to treat the conjunctivitis from its commencement, in order not to allow it to pass into a chronic state, which might be ultimately complicated by keratitis, and, consequently, irremediable lesions of the cornea.
5. To insist particularly upon these recommendations in places where large families reside in small chambers, in schools, asylums, children's hospitals, where the accumulation of many individuals in the same atmosphere predisposes to contagion.

ART. 158.—*On the Treatment of Chronic Granulations of the Conjunctiva.*

By J. SOELBERG WELLS, Professor of Ophthalmology in King's College, London.

(*A Treatise on the Diseases of the Eye*, 1869.)

"In the treatment of this disease, our first care must be to place the patients under the most favorable sanitary conditions. They should take a good deal of out-door exercise, their eyes being protected against wind, dust, and bright light by blue glasses. They should be warned not to expose themselves to any irritating cause—as, for instance, tobacco smoke. For this reason no smoking should be allowed, except in the open air, and then only to a limited extent. The general health must also be attended to. Not only may the patient be naturally weak and feeble, but the severity and protracted course of the disease are too likely to affect the health, and at the same time to exercise a most depressing influence upon the mind. The diet should be nutritious and easily digestible, and malt liquor and wine will generally be very beneficial. If the patient is scrofulous, or weak and feeble, cod-liver oil, steel, and quinine should be freely given, and every care taken to invigorate the constitution as much as possible by open air exercise, sea-bathing, or even a voyage.

"In our local treatment we must be chiefly influenced by the fact that the maintenance of a certain degree of inflammation of the conjunctiva is necessary and desirable in order to produce and hasten the absorption of the granulations. Our chief efforts must, therefore, be directed to maintain the requisite degree of inflammation, and so to balance it that it shall not, on the one hand, be too considerable, nor, on the other, too slight for promoting the absorption.

"The greatest stress must be laid upon the fact, as Arlt and Stromeyer remind us, that the purpose of the cauterization is *not* that of chemically destroying the granulations, for this would lead to great and lasting injury of the conjunctiva from the destruction of its secreting organs, and the formation of dense cicatrices; but its object is to maintain a certain degree of hyperæmia and inflammation of the conjunctiva, in order to hasten absorption of the granulations. The nature and strength of the caustic must vary with the effect we desire to produce. If there is much swelling of the conjunctiva and papillæ, together with a thick, copious muco-purulent discharge, the crayon of nitrate of silver and potash should be applied, its effects being at once neutralized by the solution of salt and water. The cauterization may be repeated every forty-eight hours. If the patient cannot be seen sufficiently frequently for this, he should use a collyrium of nitrate of silver (gr. ij—iv, ad ʒj), or of sulphate of copper of the same strength, two or three times daily. In these cases we may also first try the effect of a collyrium of acetate of lead, or the chlorine water, in order to see if the conjunctiva will bear the nitrate of silver. The use of very strong solutions of nitrate of silver (gr. x—xx, ad ʒj) is not judicious, as they are but too likely to destroy the granulations, and, with them, the normal structure of the conjunctiva, instead of simply favoring their absorption. I think the crayon of nitrate of silver or copper is always to be preferred to the use of collyria, as we can regulate and limit the effect of the cauterization according to our wish, confining it, if necessary, chiefly or entirely to certain portions of the conjunctiva. If there is considerable swelling of the conjunctiva, especially at the retro-tarsal fold, superficial scarification may be employed with much advantage. After the cauterization, cold compresses should always be applied to the eyelids, in order to diminish the inflammatory reaction, or the cold douche or pulveriser may be employed. If the conjunctivitis is so slight as not to produce the absorption of the granulations, but rather to encourage their development, it will be necessary to increase the hyperæmia and inflammatory swelling of the conjunctiva. The repeated application of sulphate of copper in substance is very effectual for this purpose. The same effect may also be produced by the application of warm compresses to the eyelids. Von Graefe has found this treatment very successful, especially in those cases in which the granulations tend to extend chiefly into the conjunctiva, and in which there is not a sufficient degree of hyperæmia and swelling of this membrane. These warm compresses should, however, only be applied for a limited period, otherwise they may produce too considerable an inflammation and too great an irritability of the eye.

"In treating chronic granulations, it will be necessary occasionally to change the caustic, as it loses its effect after a time from the conjunctiva becoming accustomed to it. Thus alum, acetate of lead, or tannin may be substituted with advantage for the nitrate of silver and sulphate of copper. In some cases the acetate of lead should be rubbed in (finely powdered) between the granulations. This treatment, which was first adopted by Bruss, has been practised with great success, especially in Belgium. I have employed it with much benefit in those cases in which, together with but a slight secretion and lachrymation, the granulations are prominent and fleshy, being arranged in rows, with deep furrows or chinks between them. Finely-powdered acetate of lead should be freely rubbed into these furrows until they are quite filled up. The effect of this is, so to speak, to choke the granulations, their vitality is impaired, and they gradually dwindle down in size and disappear. After the application the conjunctiva looks marbled or tattooed of a red and white color, the chinks are filled up, and it soon becomes smooth and even. An important fact in connection with this treatment is that the discharge is now no longer contagious; at least in Belgium it is always considered, when the acetate of lead has been rubbed in, that the patients may go with impunity amongst healthy persons,

so that soldiers affected with granular lids need no longer be confined and separated from the others, but may, if they are able, resume their duties without danger of spreading the disease. The acetate of lead is best applied in the following manner: The eyelids having been thoroughly everted and the retro-tarsal fold brought well into view, a small portion of very finely powdered acetate of lead is then taken up in a small cuvette and dusted over the granulations, being well rubbed into the chinks, so as to fill them up. The watery discharge from the conjunctiva forms the powder into a thick plasma, which runs through and fills up the furrows between the granulations. When it has been applied to every portion of the granular conjunctiva, a small stream of cold water, either from a sponge or an India-rubber ball syringe, should be made to play upon the conjunctiva, in order to wash away any superfluous quantity of the powder, which comes away in small white flakes. Both eyelids may be everted at the same time, so as to fold over and protect the cornea, the powder being rubbed over both eyelids, and the stream of water applied before they are replaced. But if the simultaneous eversion of both lids is difficult, or the patient very restless and unruly, it is better to evert one lid at a time. It is best to commence with the lower lid; for if the lead be applied first to the upper, the lower becomes reddened and bathed in tears, so that it will not only be difficult to see the chinks, but the powder will be readily washed away by the tears, whereas the conjunctiva of the upper lid, from its greater expanse, can be more readily dried, and the tears are hence of less consequence.

"Directly after the application there is an increased flow of tears, the ocular conjunctiva becomes injected, and this is accompanied perhaps by considerable irritation, heat, and smarting in the eye, but these symptoms will soon yield to the application of cold compresses. In about half an hour the lids should be everted and the conjunctiva again washed by a stream of water, in order that any remains of the lead may be removed. The conjunctiva will now be more smooth and even, the chinks between the granulations being filled up and obliterated by the powder. If the application has been insufficient or too superficial, the granulations will reappear after a time and increase in size and prominence, rendering a fresh application of the remedy necessary. If the acetate of lead is carefully applied and the surplus well washed away, I cannot say that I have ever seen any disadvantage arise from its employment, nor have I found that it roughens the lids, and thus irritates the surface of the cornea. The best mode of applying the solution of the acetate of lead is to evert the lids, and, after drying the conjunctiva with a piece of linen, to apply it with a small brush to the granulations, this being neutralized after a few seconds with tepid water. The strength of the solution should vary from six to ten or twenty grains to the ounce, according to the condition of the conjunctiva, and it should be applied every day, or every other day.

"I most strongly object to the application of undiluted liquor potassæ to the granulations, as this not only more or less destroys the stroma of the granulations, but gives rise to very considerable cicatrices, leading to ectropion, &c."

ART. 159.—On Disturbances of Vision consecutive to Morbid Changes in the Teeth and to Operations performed on these Organs.¹

By M. AUGIAS-TURENNE.

(*Archives Générales de Médecine*, No. 3, 1869.)

Morbid changes of the teeth, or operations practised on these organs, may determine visual disturbances.

These disturbances generally consist in a diminution of the visual power, which may extend even to complete abolition. This is generally accompanied by dilatation of the pupil without apparent organic changes.

In other cases, however, the change of vision takes place from disturbances

¹ Communicated to the Académie de Médecine.

of the nutrition of the eye, caused by paralysis or reflex contractions of the vaso-motor nerves.

Young subjects are principally affected.

The teeth of the upper jaw, and among these the molar teeth, seem to be almost exclusively the cause of these disturbances. The affections disappear with remarkable rapidity after extraction of the teeth, without it being necessary to resort to any other treatment.

ART. 160.—On Tubercles of the Retina and Choroid as Diagnostic Signs of Tubercular Meningitis.¹

By M. BOUCHUT.

(*Archives Générales de Médecine*, No. 12, 1868.)

1. Tubercles may exist in the retina and choroid, and then indicate either tubercular meningitis or general tuberculosis.

2. When a feverish subject presents disturbances of intellect, movement, and sensation, and is affected at the same time with tubercular granulations of the choroid, the existence of tubercular meningitis may be determined.

3. Tubercles of the choroid are among the rarest manifestations of the tubercular diathesis.

4. Tubercles of the choroid are presented under the form of pale miliary granulations, which are sometimes shining and pearly.

5. Retrogressive granulo-fatty metamorphosis of the normal elements of the retina and of the choroidal cells is the origin of tubercles of the retina and choroid.

ART. 161.—On the Ophthalmic Signs of Constitutional Disease.

By ERNEST HART, Ophthalmic Surgeon St. Mary's Hospital.

(*British Medical Journal*, February 13.)

At a meeting of the Harveian Society of London, held January 21st, Mr. Ernest Hart read a portion of a detailed paper on the Ophthalmoscopic Signs of Constitutional Disease. The nervous and vascular tissues of the eye, as observed by the ophthalmoscope, gave characteristic indications, according to the author, not only of a number of cerebral and spinal diseases, but of many cardiac, visceral, and vascular diseases. The part of the paper read (the whole being too long for the purpose) gave a minute description of the changes of the optic nerve and retina in spinal and cerebral affections. The general views were in most respects opposed to those of Bouchut, whose conclusions were not accepted; those of Galezowski being stated to be more accurate. Mr. Hart said that he had been called upon, from time to time, to give an ophthalmoscopic diagnosis to physicians of St. Mary's Hospital, not only with a view to the elucidation of the degree of organic change accompanying any particular series of brain symptoms; but in order to help to distinguish between simulated or hysterical and real disease. In private life the ophthalmoscope had decided the diagnosis when the question lay between typhoid and meningitis; and had indicated more than once impending cerebral or other organic disease where only failure of sight was complained of. In a recent case, he had prevented an insurance company from advancing a heavy sum on the life of a gentleman already insured, but in whom there had been ground for ophthalmoscopic observation, owing to an anomaly of sight. The examination led to the conclusion that the arteries of the brain were atheromatous, which subsequent events have confirmed. Mr. J. Z. Laurence said the subject was one which only ophthalmic surgeons in connection with general hospitals had much opportunity of following out, and constituted in itself quite a speciality in

¹ Communicated to the Académie des Sciences.

ophthalmic research. The paper was so full of valuable data that he hoped it would soon be printed for reference and discussion.

ART. 162.—*On the Treatment of Granular Ophthalmia and Pannus by Inoculation.*

By J. G. HILDIGE, F.R.C.S.I., Surgeon to the National Eye and Ear Hospital.

(*Dublin Quarterly Journal*, February.)

The following cases, treated at the National Eye and Ear Hospital, Mr. Hildige writes, show the efficacy of inoculation as a remedy for the cure of the above diseases, when all other means had proved unavailing:—

"CASE 1.—Ellen B., aged seventeen, of a healthy and tolerably strong appearance, applied for medical advice under the following circumstances. She stated that when she was four years of age her eyes commenced to be affected, and ever since that time, during a period of thirteen years, she had been almost continually under medical treatment, her sight being occasionally so bad that she was obliged to be led about. On examination I found the cornea of each eye extremely vascular, and so opaque that it was with difficulty she could discern large objects placed near her. The mucous lining of the upper eyelids was covered with granulations and much thickened; it also showed signs of long-continued treatment. She suffered considerably from pain in the eyeballs and temples, which from time to time became so severe, particularly at night, that sleep was completely banished from her pillow. As the usual remedies were followed only by temporary improvement, and as she had been suffering so long from the disease, I resolved to have recourse to inoculation, a remedy which I had seen elsewhere employed with the best possible results, and which was not contra-indicated in this case. The pus was taken from the eye of an infant suffering from acute purulent ophthalmia, and was introduced by means of a camel-hair brush between the girl's eyelids. After the expiration of twenty-four hours considerable irritation, accompanied by pain, set in, and at the end of forty-eight hours both eyes were suffering from an acute attack of purulent ophthalmia. Active antiphlogistic treatment was employed, the disease ran a favorable course, and at the end of fourteen days the inflammatory symptoms had subsided, leaving both corneæ perfectly sound, and showing indications of commencing improvement. Three weeks later both corneæ had become so transparent that the patient could read large type; and at present, four months from the day of inoculation, her eyes are perfectly sound, and her sight so good that she can read small type and see distant objects more distinctly than ever she remembers to have done in her life."

Cases 2, 3, and 4 are similar in many respects.

It appears that Mr. Hildige has treated other cases of opacity by this means, and with the same beneficial results. He considers that it may be safely resorted to in every case of granular ophthalmia, except when it is contra-indicated by a strumous or syphilitic diathesis, in which cases diphtheritic inflammation would be the inevitable result.

ART. 163.—*On Optic Neuritis and Perineuritis.*

By Dr. XAVIER GALEZOWSKI.

(*Archives Générales de Médecine*, No. 12, 1868; No. 1, 1869.)

The following conclusions are given at the end of Dr. Galezowski's memoir:—

1. Optic neuritis is very often produced in dependence upon cerebral tumors and attacks of meningitis.

2. The cerebral tumors inducing optic neuritis are almost exclusively those which are seated in the neighborhood of the central organs of vision; it is only basilar meningitis seated about the chiasma, which may result in inflammation either of the tissue surrounding the optic nerve, or of the proper tissue of the nerve itself.

3. To distinguish by ophthalmoscopic signs meningitis from a cerebral tumor is in most instances impossible, and it is necessary for this purpose to have recourse to the rational and general symptoms of these affections. It ought, however, to be remarked, that progressive diminution of vision leading to complete blindness, is most frequently the consequence of a cerebral tumor; if, on the contrary, vision be diminished or brightened so that exacerbations or remissions of the disease can be determined, then one can justifiably conjecture a meningitis.

4. Optic neuritis is transformed in the course of some time into a partial or complete atrophy of the papilla. This atrophy, according to Dr. Galezowski, is to be distinguished from progressive atrophy, and especially from that form which has been observed in locomotor ataxy, by the irregular contours which lose themselves in exudation; also by the marked varicose condition and sinuosity of the central vessels.

To these purely ocular phenomena it is necessary to add the general symptoms which are peculiar to each of these affections. Occipital pains, convulsive or epileptiform attacks, weakness of the legs, vertigo and vomiting, and paralysis of the seventh, eighth, or fifth pair almost always accompany tumors which are seated in the neighborhood of the tubercula quadrigemina, and in the anterior and superior part of the cerebellum, the cerebral peduncles, the fourth ventricle, &c.

ART. 164.—*Treatment of Disease of the Lachrymal Sac.*

By Prof. ALFRED GRAEFE, of Halle.

(*Zehender's Monatsblätter für Augenheilkunde*, August, 1868; and *New York Medical Journal*, February, 1869.)

The author suggests one or two new points. To aid in voiding the sac of secretion, he causes the patient to perform the manœuvre of Valsalva, namely, blowing forcibly while mouth and nose are closed. If this be done immediately after a probe has been passed, the air will find its way into the lower end of the nasal duct and escape by the canaliculi, bringing with it more or less of the catarrhal secretion. For two or three days only will this manœuvre be practicable, when another introduction of the sound will permit it to be repeated for another period. To avoid the accident of emphysema, which might ensue if the probe have torn the mucous membrane, Professor Graefe cautions us to put the finger lightly on the sac, as the patient is blowing for the first time. After the passage has been dilated a little, there is slight danger of this occurrence.

Professor Graefe also uses a douche apparatus, recommended by Dr. Herzenstein, in place of a syringe, for effective cleansing of the passages—a small tube is inserted into the canaliculus, and this by a flexible tube connected with a pump.

But cases are sometimes met in which the stricture is wholly overcome, and the catarrhal secretion dried up, while epiphora continues. In one such case the cause was found to be hypertrophy of the caruncle, which, by pressing on the canaliculus, impeded the entrance of tears. The excision of the caruncle relieved the epiphora. The mass need not be very large to cause such trouble; and in cases where the duct is brought to proper size, the catarrh of the sac is cured, the eyelids are in correct position, and the muscular apparatus sound, and yet epiphora continues, Professor Graefe recommends the trial of this operation of excision of the caruncle.

ART. 165.—*Treatment of Stricture of the Lachrymo-nasal Passages by Internal Division.*

By Dr. WARLOMONT.

(*Annales d'Oculistique*, tome lx., Sept.—Oct., 1868.)

The mode of treatment suggested by Dr. Stilling has been adopted by Dr. Warlomont, and in the above paper he narrates the history of eight cases, and says that he has treated a score besides, whose history is absolutely the same. Whether the cure will be permanent, he does not affirm positively, but in some an experience of five or six months has exhibited complete relief from lachrymal trouble.

One case (obs. iv.) is that of a young and pretty girl, twenty years old, who for more than three years had been treated by Bowman's probes, and could pass No. 4. This was done twice a week, but the epiphora continued. After having Stilling's operation done, she found herself in a week more comfortable than for three years previous. The cure became complete, and was known to remain for five months.

In some cases the canal was found beset by rugosities, and the obstruction to be so hard as to creak under the knife. It was necessary sometimes to use considerable force. In all cases the small conical sound of Weber was first used, both to explore the canal and prepare the way for the knife, by dilating the passage as fully as it was capable of doing. After the stricture had been freely divided, an injection of warm water was sometimes made on the following day. Usually the catarrhal secretion from the sac began to diminish, the swelling of the sac to subside, and fistulous openings to close without any further treatment. Slight conjunctivitis would also disappear, while troublesome ophthalmia tarsi and ectropium would require a few weeks' treatment.

If, in extreme cases of lachrymal catarrh, the disease did not disappear spontaneously, Dr. Warlomont recommends a proceeding, devised by Dr. Libbriicht of Gand, for facilitating the introduction of medicated fluids into the sac. A stylet made of platina, in size equal to Probe No. 1 of Bowman, and grooved on three sides, is worn in the nasal duct. It is about one and a half inches long, and bent at its upper end into the form of a hook, so as not to sink out of place. It is designed to favor the penetration of fluid, which may be simply dropped into the inner angle of the lids. The substance preferred by Dr. Libbriicht is chloride of zinc in solution of about gr. $\frac{1}{4}$ to $\frac{3}{4}$, dropped into the eye three times daily, and continued seldom longer than two or three weeks. This mode of proceeding is a good substitute for injections by the syringe, which require to be done by the physician, and are consequently not done as often as the disease requires.

ART. 166.—*The Application of Artificial Eyes (Prothesis Oculi).*

By J. SOELBERG WELLS, Professor of Ophthalmology in King's College, London, &c.

In his elaborate treatise on *The Diseases of the Eye*, Mr. Wells writes: The use of an artificial eye should not be allowed until five or six weeks after the excision—until the cicatrix has become firmly united, and the parts are quiet and free from all irritation. If the eye has been removed on account of sympathetic irritation of the other, special care must be taken that no artificial eye is worn until all the sympathetic symptoms have permanently disappeared for some months, and the eye must be carefully watched for some time afterwards, lest the artificial eye might re-awaken them. Indeed, the wearing of an artificial eye for too long a time, so that it sets up great irritation, may even give rise to sympathetic disease.

At first a small eye should be worn for a short time each day, and then, when the parts have become accustomed to it, and there is a complete absence of all

symptoms of irritation, a larger one may be adopted and worn for a longer period, and at last the whole day, but it should *always be removed at night*. After the lapse of some months the internal surface of the eye becomes rough, and as this is a ready source of irritation and discomfort, a new one is required.

As the insertion and removal of the artificial eye require some little knack and practice, Mr. Wells subjoins the following concise and plain rules, which are given to the patients at the Royal London Ophthalmic Hospital:—

Instructions for persons wearing an artificial eye.—It should be taken out every night and replaced in the morning.

To put the eye in.—Place the left hand flat upon the forehead, with the fingers downwards, and with the two middle fingers raise the upper eyelid towards the eyebrow; then with the right hand push the upper edge of the artificial eye beneath the upper eyelid, which may be allowed to drop upon the eye. The eye must now be supported with the middle fingers of the left hand, whilst the lower eyelid is raised over its lower edge with the right hand.

To take the eye out.—The lower eyelid must be drawn downwards with the middle finger of the left hand, and then with the right hand the end of a small bodkin must be put beneath the lower edge of the artificial eye, which must be raised gently forward over the lower eyelid, when it will readily drop out; at this time care must be taken that the eye does not fall on the ground or other hard place, as it is very brittle, and might easily be broken by a fall.¹

After it has been worn daily for six months, the polished surface of the artificial eye becomes rough. When this happens, it should be replaced by a new one; for, unless this is done, uneasiness and inflammation may result.

ART. 167.—*A Case of Calcification of the Choroid, Ciliary Processes, Crystalline Lens, and Capsule.*

By CHAS. A. HART, M.D., New York.

(*New York Medical Journal*, December, 1868.)

J. Krissinger, aged about fifty-five years, was presented to Dr. Hart, June 25th, by Dr. W. A. Garman, of Berlin, Somerset County, Pa., who requested him to examine the patient for a supposed cataract.

The history rendered was as follows: Twenty years ago the patient began to experience a loss of vision in both eyes, which, after a considerable period, rendered him totally blind in the right organ, vision being still preserved to a limited extent in the left; this condition being attended with considerable pain, relief was sought, and he presented himself to Dr. Gross, of Berlin, who pronounced his case one of hard cataract, and finally attempted the operation of depression, which afforded no relief. He has been the subject of frequent rheumatic attacks. Objectively the appearances presented, when Dr. Hart saw him, were as follows: The globe was atrophic, the cornea presented evidences of former inflammatory action, having a roughened and semi-opaque appearance. The pupillary space was occupied by a dirty yellowish-white body. The iris having lost its power of action, was uninfluenced by either light or solution of atropia.

Neither the ophthalmoscope nor concentrated light revealed anything beyond the dense character of the lens.

The patient was very much distressed by the constant pain he was suffering, and there seemed to be no chance of relief other than enucleation, which being proposed, was accepted. Accordingly Dr. Hart performed the operation on the 30th of June. The morbid changes found upon an examination of the eye were a complete calcification of the choroidal tunic, very dense about the optic disk, gradually thinning off toward the ciliary processes, which were also filled with calcified deposits, though not in a perfect state of organization; none of

¹ In order to avoid this accident, the patient should stoop over a cushion or handkerchief placed on a table or over a bed.

the true choroidal tissue could be discovered. The retina was thickened, and in several places detached; the optic disk was atrophied, with no trace of the vessels remaining. The vitreous body was broken down and changed into a fluid mass, which contained a quantity of crystalline matter resembling cholesterine, though Dr. Hart cannot assert that it was such, being without a microscope at the time. The crystalline lens and capsula were both found in the normal position; the capsule being thickened and opaque, and, when opened, grated under the knife like sand, revealing the lens shrunken in diameter and completely calcified, together with an unorganized white crystalline paste, which, having since been examined with the microscope, proves to be crystals of cholesterine with a few of the phosphate of lime. The lens was examined, by deflected light through the bull's-eye condenser, with the one-inch objective; the surface was a yellowish-white color, perforated by numerous minute foramina. Nothing resembling the minute structure of bone could be discovered. The patient recovered nicely from the operation, and has since been entirely free from suffering.

ART. 168.—An Improvement upon Politzer's Method of Injecting Air into the Eustachian Tubes in certain Cases of Deafness.

By JOHN BRUNTON, A.M., M.D. London.

(*Glasgow Medical Journal*, November, 1868.)

Politzer's method of injecting air into the Eustachian tubes is based upon the fact that when the *circumflexus* or *tensor palati* muscle is put upon the stretch in the act of swallowing, the mouth of the Eustachian tube is opened, and air is allowed to enter the tube.

Politzer directs the patient to take a mouthful of water; the operator then inserts a canula into the right or left nostril, as the case may be; attached to this canula is an India-rubber bag filled with air; on the patient making a sign that he is about to swallow, the operator, closing the nostrils of the patient upon the canula with one hand, so as to prevent all egress of air, as the patient swallows squeezes the bag, thereby injecting a strong current of air, which immediately rushes up the mouth of the Eustachian tube, which has been opened by the action of the *circumflexus* or *tensor palati* muscle in the act of swallowing.

This method is very useful in many cases, especially those of a catarrhal nature, often restoring the loss of hearing in a manner that seems marvellous to the patient. Nevertheless, advantageous as the operation may be, it has often unpleasant disadvantages. Sometimes the movement of the patient (the act of swallowing) and the movement of the operator (the act of pressing the bag) are not exactly in unison, and the consequence is, that unpleasant fits of coughing follow by too early pressure of the air, or no injection of air takes place by a too late pressure, necessitating a repetition of the process, which may or may not be very acceptable to the patient.

On account of this, the improvement which is described below suggested itself to Dr. Brunton, in consistence with those movements of harmony which abound in the human system. The improvement consists in allowing the patient to be himself both the subject and the operator.

The apparatus consists of an India-rubber bag (10 oz.), to which is attached a sufficiently long flexible tube, so that the bag may rest on the floor. To the other end is fixed a gum-elastic canula, which the patient passes into his nostril. He then takes a mouthful of water, and as he swallows, holding his nostrils tight with the fingers, presses the bag with his foot, and thereby injects the requisite air.

Dr. Brunton has used this apparatus a good many times, has found it invariably satisfactory, and free from the unpleasant results above mentioned. The movements are in unison.

ART. 169.—*Pruritus Cutaneus of the Meatus Auditorius.*

By Dr. GRUBER.

(Allgem. Wien. Med. Zeit., December 29; and British and Foreign Med.-Chir. Review, April.)

Dr. Gruber draws attention to this affection, which he says is either overlooked or treated too summarily in treatises on diseases of the ear. Itching of the passage is often met with during the progress of affections of the ear attended with inflammation, or oftener at the end of these when desquamation is set up; but this soon passes away. Eczema of the meatus is a severe affection, but yields sooner than eczema in other parts of the body, at least as far as the itching is concerned. The affection indicated in this paper, however, is the pruritus cutaneus of Hebra. Of this the intense itching of the meatus constitutes the only subjective or objective symptom, the lining of the passage exhibiting no trace whatever of any changed appearance. It is true that in aged persons suffering from it the passage may be found very dry, without a vestige of cerumen, but that this is no essential feature is seen in other cases in which the secretion is found in excess. The pruritus is oftenest met with in persons of middle age, and especially those in whom there exists some disturbance of the circulation. Thus, persons suffering from hæmorrhoids or large varicose veins seem very liable to it, although even children are not exempt. The itching often comes on periodically, e. g., in the evening, the patient having been completely free from it during the day. Oftentimes it may be absent for months, to return again with distressing severity. In the cases seen by Dr. Gruber the affection has been strictly local, no other part of the body participating in the irritation. Sometimes, as the result of constant scratching, artificial eczema, inflammation, &c., may be set up. As a palliative during the attack a few drops of some watery or oily fluid, as glycerine or almond oil, may be dropped in with good effect. The more habitual sufferers should be taught to pencil the passage with these, or ointments, such as the *crème céleste*; and those whose night's rest is liable to be disturbed should on going to bed introduce lint imbibed with these substances, and leave it in. As a more radical means, Dr. Gruber has derived much advantage from the daily pencilling the meatus with a strong solution (gr. x ad ʒij) of the nitrate of silver. This should be done in a good light so as to avoid the membrana tympani, and must not be continued after signs of reaction appear. When this has subsided, if the itching still continue, the pencilling must again be resorted to.

ART. 170.—*The Caustic Treatment of Purulent Catarrh of the Ear.*

By Professor SCHWARTZE, of Halle.

(Medical Times and Gazette, May 15.)

As the advantages of the caustic treatment of the purulent catarrh of the ear seem not to be sufficiently known, the author does not think it superfluous to call the attention of his professional brethren to this method of treatment.

To decide whether the caustic treatment becomes necessary or not, the most accurate examination of the ear is required. If this examination shows no granulations upon the exposed mucous membrane of the tympanum or upon the rest of the membrana tympani, and no symptoms of ulceration of the bone, then success, Professor Schwartze writes, may be expected with almost absolute certainty.

To recognize small granulations, however, has often its difficulties to not very practised eyes. It would not surprise the author therefore to be told that the method has proved unsuccessful where, in reality, the examination bears the fault. Even the small trachom-like granules which are often found upon and near the margins of older defects in the membrana tympani, contra-indicate the application of this method. Neither those nor isolated larger ones disap-

pear, as far as Professor Schwartze's own experience goes, by touching with even the strongest solutions of nitrate of silver. They always require the application of the nitrate of silver in substance, or, if a more speedy result is demanded, the galvano-caustic cauterization. Still less benefit can the method have, of course, if there are larger polypous excrescences. In carries the ichorous discharge is somewhat limited by the cauterization, and the fetor diminished, but the cure is never in any considerable degree promoted. Astringents, even used in the weakest solutions, increase the pain, as is well known, whilst the other treatment is borne without increasing the same.

The caustic method is very aptly applied to all cases which show a hyperæmic, swollen, lax, and succulent mucus membrane, regardless of the duration of the disease. In recent cases an application twice or three times repeated will suffice. In older cases, where astringents have been used in vain for a long time, the cauterization must be more frequently repeated. The change for the better is almost without exception perceptible after the third or fourth cauterization, and manifests itself by diminution of the swelling and redness, and by a considerable abatement of the secretion. The strength of the solution used for the cauterization of the mucous membrane depends upon the existing swelling and injection. Professor Schwartze is in the habit of using fifteen grains of nitrate of silver to the ounce for the weakest, and forty grains for the strongest solution. As Wilde has recommended it in purulent inflammation of the meatus externus, the author at first touched the rest of the membrana tympani and the exposed parts of the mucous membrane with a small hair-brush attached to bent pincers. Very soon, however, he was convinced of the impracticability of this method of application, it being impossible to reach all the parts of the tympanum with the brush. He therefore pours the solution always into the ear. Before doing this it is necessary to remove all the secretions most carefully by syringing the meatus externus and by blowing through the Eustachian tube. After this the ear must be carefully wiped with the help of the speculum. The latter is best done by means of fine charpie or cotton fastened to the blunt ends of a pair of small pincers. Should some of the secretion of the injected water remain in the tympanum, the solution of course does not come at all, or at least not in the desired concentration, in contact with the diseased membrane. The pouring in of the warmed solution may best be done by a small glass pipette or a small shallow china cup. Fifteen drops of the solution are usually sufficient. The longer the solution remains in the ear the stronger of course is the caustic effect. In accordance with the state of the mucous membrane, the solution therefore is left in the ear from some seconds to one minute or longer. To bring the solution during this time as much as possible in contact with the membrane, it suffices in cases of large defects of the membrana tympani to turn the head in different directions, particularly towards the back. In cases of small perforations it will be necessary to press air through the Eustachian tube while the solution is in the ear (Politzer). A still surer success may be obtained, in the author's opinion, by applying strong pressure of the fluid column in the meatus with the help of a thick India-rubber tube hermetically applied whilst the head is slightly bent towards the opposite side. By this proceeding the solution is forced to find a way through the perforation into the tympanum, and arrives thence into the pharynx, if the mucous membrane of the Eustachian tube is not very much swollen. Those healthy parts of the mucous membrane in the Eustachian tube and the cavum pharyngo-nasale which are touched by the solution will not be hurt dangerously if neutralization at once takes place. To this end the solution is removed by turning the head to the opposite direction and by making a strong injection of lukewarm salt water immediately after it. To remove the chloride of silver and the superfluous chlorate of potash which remains in the ear, a few full injections of lukewarm water must follow. Should the caustic solution have gone as far as the pharynx, the salt water must be applied there in the same manner as the solution got there. After having repeatedly wiped dry the ear, charpie or a small setaceum of linen is introduced deep into the ear. The charpie remains there till the cauterization is to be repeated, and it shows the quantity of the matter in the meantime secreted. The cauterization must not be repeated until the eschar has been

completely thrown off. This is shown, as is well known, in the form of whitish spots sitting upon the mucous membrane. The more succulent the membrane was, the sooner will the eschar be thrown off. In exceptional cases it may therefore be necessary to apply the cauterization twice a day. As a rule, however, it will suffice to cauterize once a day in the above described manner. When the swelling decreases it will be sufficient to repeat it once every two or three days. It is not seldom the case that, even after the first cauterization, the appearance of the mucous membrane is so much changed and the secretion so considerably diminished that the solution cannot be continued in the original strength, but has to be weakened. If the cauterization is repeated too late—i.e., after renewed swelling and hypersecretion of the membrane—the effect is almost as bad and slow as by the usual astringent treatment.

ART. 171.—*Mechanical Dilatation of the External Meatus of the Ear, with Compression of its Lining Membrane in Cases of Otitis Externa Acuta.*

By J. GOTTSTEIN, M.D.

(*Centralblatt f. d. Medicin. Wissenschaften*, December 1868; and *American Journal of the Medical Sciences*, April.)

The author, contrary to the commonly received opinion that in diffused acute inflammation of the external meatus of the ear any attempt at forcible dilatation of the canal would most certainly augment the existing disease, recommends this very procedure for its cure if there be the least sign of contraction of the meatus. In two cases he trusted entirely the cure of the otitis to methodical dilatation and compression by means of tents of compressed sponge. In all cases of acute diffused *otitis externa*, Dr. G. recommends the introduction, as deep as possible into the meatus, of a conical-shaped portion of pressed sponge, about 3–4 cm. long, and 2.3 mm. in diameter at its largest end, to be kept constantly moistened by a few drops of lukewarm water; the sponge to be allowed to remain for from six to twelve hours, or even longer; the moistening with tepid water to be renewed at the end of every two hours. This latter is all-important to facilitate the withdrawal of the tent. Ordinarily the introduction of the latter is not productive of pain. Its presence in the meatus gives rise only to a sense of distension; while in every instance, Dr. G. assures us, the symptoms due to the otitis rapidly diminish. When suppuration has taken place, if slight, it will be found, we are assured, to be rapidly arrested. When the suppuration is of considerable extent, under the treatment by sponge-tents the pus can be allowed a ready discharge, the meatus kept clean, and, when called for, local remedies easily applied. In all cases treated as above, the course of the inflammation, we are assured, was cut short, in many with great promptitude.

ART. 172.—*On Cancrum Oris.*

By THOMAS R. GLYNN, M.B. Lond.

(*British Medical Journal*, March 13.)

At a meeting of the Liverpool Medical Institution, held Nov. 5th, 1868, Dr. Glynn read a paper on Cancrum Oris. After alluding to its various synonyms, and the several affections which it had been used to designate, the author remarked that he confined the term to those cases in which gangrene of the lip and cheeks, one or both, was a prominent feature. He thought that evidence was in favor of its not being a specific disease; for, first, it never attacked a child as a distinct disease, preceded by characteristic symptoms, though some had affirmed that it did; second, it was always the consequence of some severe illness, especially the eruptive fevers, and most frequently measles; third, it was not infectious, though it was sometimes epidemic, but only as a consequence of the exanthemata. It had very rarely attacked several children in

a family simultaneously. Some thought that the swelling began as a hard substance of the cheek, others that the mucous membrane was first attacked. The gangrene appeared to depend upon great deterioration of the blood, from a general adynamic state which might arise from many and various depressing causes. Other parts might be attacked, but in children the gangrene commonly affected the lips and cheeks, probably from peculiarities due to age and the structure and relations of the parts. It always presented the same characters. In adults, cancrum oris was a much rarer complication of fevers than gangrene of the extremities, which also sometimes occurred in diabetes and other diseases. It was, however, not unknown amongst adults. Thus it was very common among our soldiers in the Crimea, and several cases of it had been recorded in the journals. The fact that the mucous membrane of the mouth was more prone to get out of order in children, and that measles occurred chiefly among them, would partly account for their greater liability to cancrum oris. There did not appear to be any connection between it and teething. It had been known to occur at as early an age as nine days. Girls were more subject to it than boys, and the majority of the cases occurred in large towns and manufacturing districts. Gangrene rarely attacked both cheeks, except as the result of mercurial salivation. It was emphatically a disease of the poor; unfavorable hygienic conditions acting as the predisposing cause, and the acute malady as the exciting cause. In some cases it was attended with symptoms almost like scurvy, and the author had seen a case in which there were œdema of the feet, and ecchymoses in various parts of the body. He considered it not improbable that there was some intimate relation between scurvy and cancrum oris. Mercury has been stated to be the most common cause of the disease, but this was not really the case, though it did sometimes produce it. Examination of the parts after death had not added much to the pathology of the disease. The chief point observed by Billiet and Barthez was, that the vessels were completely obstructed by firm clots; but this was probably only a consequence. Billard believed that the sloughing was due to the swelling and œdema obstructing the circulation. The author, however, did not agree with him; he considered it to be the result of a low erysipelatous inflammation beginning in the interior of the mouth. Gangrene of the anus, vulva, &c., sometimes occurred as complications of cancrum oris, but the most frequent lesion observed after death was pneumonia, which might be secondary to the gangrene or to the disease that caused it. Pleurisy and pericarditis had also been met with. The rate of mortality in cancrum oris was excessively high. In treatment, the local application of the actual cautery, or of strong corrosives, had always been recommended, in order—1, to thoroughly disinfect the surface by destroying all dead matter; 2, to check the spread of the gangrene by destroying adjacent tissue; 3, to excite by stimulation a more healthy inflammation. The author was of opinion that, before applying escharotics, the general condition should be consulted; for if the patient were in a low and typhoid state, the caustic could only be productive of evil by irritating, and could not excite healthy inflammation. Nitric acid might be of great service at the commencement, or when there was not much depression; but its repeated application, as recommended by some, would only be productive of evil. By the use of powerful antiseptics discovered at the present day, all dead matter could be thoroughly removed from the diseased surface. The modern constitutional treatment was by tonics and stimulants. The author then gave the details of two cases which had been successfully treated by the use of chlorate of potash wash, and the internal administration of ammonia, chlorate of potash, and bark, with beef-tea, wine, and brandy. In one of these cases two relapses had taken place; one from exposure while a dressing was being changed, and on another occasion after the removal of necrosed bone. In this case a hole had been left, and the movements of the lower jaw had been interfered with; but probably these could be remedied by operation.

ART. 173.—*Case of Salivary Calculus; with Remarks.*

By JOSEPH BELL, F.R.C.S. Ed., Lecturer on Surgery, Edinburgh.

(British Medical Journal, February 20.)

The following cases seem to be tolerably characteristic examples of a disease not very common, and regarding which little specific information is given in the more familiar text-books:—

CASE 1.—A. B., aged nineteen, called on me in April, 1868, in great mental distress. She was a strong, healthy-looking, and very attractive young lady. For two years she had noticed a tumor under her tongue to the right side of the middle line; but, as it seemed stationary and gave her no pain, she had never mentioned its existence to any one; for some months, however, it had been rapidly increasing, and within the last few weeks still more rapidly, and had given her most acute pain. She was now certain that she was suffering from cancer of the tongue.

Present Condition.—On opening the mouth, there was seen on the right side of the tongue a red, fungating, angry-looking tumor as large as a walnut, which forced the tongue upwards so as to interfere with speech, and certainly had a most malignant-looking aspect. It was of stony hardness, and contained no fluid. Trusting to her appearance of perfect health, I excised the projecting portion of the tumor with probe-pointed scissors. Considerable hemorrhage followed, and no cavity or calculus was exposed as I had hoped. However, by cautiously continuing my incision into the densely fibrous substance of the tumor, I was at last rewarded by extracting an oval calculus, about three-quarters of an inch in length. The relief to the pain was instantaneous, and in a very few days the tumor had entirely disappeared. There has been no return.

CASE 2.—Miss F. M., aged thirty, consulted me in December, 1868. She stated that for the last eight years she had noticed a tumor under the right side of her tongue, which had been frequently the seat of uneasy sensations; at times it had given acute lancinating pain, and latterly, from its size, had interfered with speech and deglutition. All the symptoms had been increased during the last twelve months. She had consulted at different times two different surgeons, who had both counselled delay. I found that the tumor was of stony hardness, and that a small portion of it projected forwards into the mouth. A free incision enabled me very easily to remove a calculus of peculiar shape, twisted like a ram's horn, and about an inch and a half in length, and of a bright orange color. All the symptoms disappeared along with the tumor.

REMARKS.—Salivary calculi are generally found at the orifices of the Whartonian ducts, or in those of the smaller ducts of the sublingual glands. (Craigie's *Elements of General and Pathological Anatomy*, p. 829.) They are very rarely found in the duct of the parotid. In most cases, their presence is easily detected by a probe or even by the finger, as they project close to the extremity of the duct, and an incision over them renders removal very easy. Occasionally, even in this comparatively superficial position, they have been the cause of so much irritation as to be mistaken for cancer. (Holme's *Dictionary of Surgery*, vol. iii. p. 907.) Salivary calculi are occasionally described as either complications or causes of ranula; this seems not to be a correct way of putting the case; for though some cases are seen in which salivary calculus has caused by its mechanical obstruction of the duct a temporary collection of saliva behind it, the fluid which is liberated by its removal has not the consistence or appearance of the fluid met with in ordinary cases of ranula. In the two cases recorded above, the calculi were more deeply seated, being rather in the substance of the gland than in the duct, and the second one especially is remarkable for the long duration of the symptoms. In both the walls of the tumor in which the calculi were imbedded were very firm and hard; in neither was there the slightest accumulation of either saliva or the glairy fluid of a ranula. A case recorded by Gross, of Philadelphia (Gross's *Surgery*, 3d ed., vol. ii. p. 479), seems to

have resembled mine in the obscurity of some of the earlier symptoms. Probably, if left alone, the natural course of such calculi is, as South says (South's *Chelius*, vol. ii. p. 406), to escape by ulceration into the cavity of the mouth; but my cases showed that this may, in some cases, involve a very long and a very painful process, before any progress in such ulceration results. Excision in every case is easy, painless, and satisfactory. I have preferred, for the sake of brevity, rather to refer to authorities on this subject than to quote them."

ART. 174.—*Removal of the Entire Tongue.*

By Dr. FENWICK, of Montreal.

(*New York Medical Journal*, February.)

Dr. Fenwick, of Montreal, Canada, assisted by Professor G. W. Campbell, of the McGill University, removed the entire tongue on account of epithelioma, on the 20th of November last. The operation was speedy and bloodless, and quite similar to that of Mr. Nunneley, of Leeds, England. The mouth was entered from the floor, the incision being in the median line, between the chin and hyoid bone—the dissection being then carried between the genio-hyoid muscles. Through this opening the chain of a Chassaignac écraseur was carried on a long curved needle back to the base of the tongue, close to the epiglottis. The process of cutting through the tongue with the chain occupied nine and a half minutes. The case progressed most favorably, the patient being able to return to his home, a distance of one hundred and ninety miles, on the twelfth day after the operation. This is said to be the first occasion of the performance of this operation in Canada.

ART. 175.—*On Tracheotomy in Syphilitic Lesions of the Respiratory Passages.*¹

By M. ULYSSE TRÉLAT.

(*Gazette Hebdomadaire*, No. 50, 1868.)

The following conclusions are given as a *résumé* of Dr. Trélat's contribution:—

1. The syphilitic lesions of the respiratory passages which necessitate tracheotomy may appear at any period of syphilis, but are more frequent during the tertiary period. They vary in nature, seat, and extent. Still, they are so much the more common as they approach nearer to the superior orifice of the larynx.
2. The commencement of the symptoms of obstruction may be rapid, but generally it is slow, and should be watched with care, as it furnishes an element of the diagnosis.
3. The attentive study of the symptoms and signs which characterize the obstructions of the larynx, and those of the trachea, demonstrate that it is possible to distinguish these two orders of lesions, which are so important to be recognized with regard to prognosis and treatment.
4. The diagnosis of these lesions is based upon the preservation of disappearance of the voice, upon the epoch of the appearance of dyspnoea, and upon laryngoscopic examination.
5. Tracheotomy gives excellent results in cases of laryngeal obstruction. In cases of obstruction of the trachea it has as yet been attended with no favorable results.
6. When the operation is indicated it should be executed without delay, as death may take place rapidly in consequence of an attack of suffocation.
7. Although tracheotomy offers but little chance of success in cases of

¹ Communicated to the Académie de Médecine, December 9, 1868.

tracheal obstruction, it should nevertheless be attempted after a diagnosis, which might be rectified and rendered certain during the course of the operation.

8. The operation may be modified in consequence of the nature of the lesions, and success cannot be expected unless it is possible to penetrate and dilate the contraction with a proper canula. In contrary cases the obstruction is fatal.

9. When tracheotomy is followed by recovery, the time during which the canula should be retained varies directly with the nature of the lesion. Its removal as soon as possible after the operation is indicated, and the medical treatment is then to be unceasingly pursued.

10. The employment of M. Brocas' canula (with a limited opening during inspiration) will allow the surgeon to determine exactly the time when he may withdraw the canula, and allow the wound to close without running any danger.

ART. 176.—*On the Statistics of Ligature of the Subclavian Artery.*
(Transactions of the American Medical Association, vol. xviii)

The following remarks on a statistical table containing 157 cases of ligature of the subclavian, are given in the report of a Committee to whom was referred the subject of this operation:—

Upon a revision of the statistics included in an appended table, and the report contained in Circular No. 6, together with the cases reported by Pirogoff, we find that the subclavian artery has been tied in 196 instances. The operation has been followed by death in 107, and by success in 88, being a mortality of 54.5 per cent.; the result of one case is not given.

As regards sex, the operation has been performed on 138 males and 14 females, which makes the ratio between the sexes in favor of the males as 9 to 1.

The age of the person operated upon is noticed in 129 cases. The youngest is eighteen years, and the oldest seventy-three years; the mean being thirty-eight years and about two months.

As regards the *side affected*, this point is noticed in 134 cases. Of these, 82 were on the right side, and 52 on the left.

The *earliest period of separation of the ligature* recorded is the 8th day, the latest the 113th day, the mean the 21st day.

In the case of *aneurisms*, the *proximal* ligature has been applied in 110 cases, with 48 deaths; a mortality of 43.6 per cent.

The *distal* ligature has been applied in 10 cases, with 8 deaths; a mortality of 80 per cent.

The number of deaths following the proximal ligature for traumatic axillary aneurism is 8 out of 24 cases, a mortality of 33.3 per cent.

The subclavian has been tied in 29 instances for *subclavian aneurism*, of which 24 were idiopathic and 5 traumatic. Of the former, the *proximal* ligature was applied in 22 cases, with 13 deaths, and the distal in 2 cases with 2 deaths. Of the latter, the whole 5 cases were treated with the proximal ligature, with 3 deaths.

Eight cases of *aneurism of the innominate* are reported, in which the distal ligature was applied to the subclavian. Of these 6 were fatal.

The subclavian has been tied for causes *other than aneurism* in 76 instances. Of these 48 were fatal, a mortality of 68.5 per cent.

The subclavian in its *first division* has been tied 13 times without a single recovery.

In its *second division* it has been tied 9 times, with 4 deaths.

In its *third division* it has been tied 174 times, with 89 deaths.

Hemorrhage occurs as a cause of death in 29 cases out of 67 reported. Next in order is *exhaustion*, 11 cases, and *gangrene*, 8. *Pyæmia*, pleurisy, rupture of the sac, &c., complete the list.

In looking over the table for the purpose of discovering whether there has been any diminution in the death-rate as the result of past experience, or other

causes, the percentage of mortality has been ascertained as nearly as possible for decades with the following results :—

1800 to 1810	2 cases,	1 death,	50	percentage.
1810 " 1820	8	" 5 deaths,	62.5	"
1820 " 1830	24	" 11	" 45.8	"
1830 " 1840	41	" 21	" 51.2	"
1840 " 1850	25	" 10	" 40	"
1850 " 1860	27	" 14	" 51.8	"
1860 " 1867	60	" 39	" 65	"

ART. 177.—*Case of Lipoma Nasi.*

Under the care of Mr. HULKE, of the Middlesex Hospital.

(*The Lancet*, March 13.)

A coachman, aged forty-nine, was admitted into the Middlesex Hospital on May 5th, 1868, with an enlargement and redness of the tip and sides of his nose, with dilatation of the orifices of the sebaceous follicles, which disfigured him so much that no one would engage him.

The lipoma was shaved down by repeated slices till the fibro-cartilage could be seen. The bleeding was soon arrested by pressure and ice, and the wound was dressed with unguentum simplex.

The patient left the hospital on the 1st of June, with a smooth even scar, and his personal appearance greatly improved.

ART. 178.—*On Popliteal Aneurism occurring in Diabetic Patients, and on its Treatment by Forcible Flexion.*

By M. VERNEUIL.

(*L'Union Médicale*, No. 129, 1868.)

The following conclusions were given in a paper communicated to the Académie Impériale de Médecine :—

1. The coincidence of glycosuria with spontaneous aneurisms has not yet been pointed out: it merits, however, the most serious attention, for it has a particular influence on the choice of the curative method, and moreover raises fresh questions concerning the etiology of aneurisms and the composition and properties of the blood in diabetic patients.

2. It contra-indicates the ligature in a manner almost absolute, and also renders mechanical compression very difficult by predisposing the formation of sloughs under the compressing pads.

3. Notwithstanding its mixture with glycose, the blood seems to preserve its plastic properties, or, in other terms, its aptitude to deposit within the sac fibrinous layers or active clots.

4. The anti-diabetic regimen, very different from that generally prescribed during the mechanical cure of aneurism, does not appear to destroy this aptitude. It seems therefore prudent to carry it out when the general condition requires it, and to continue it even after the apparent or real disappearance of the glycose.

5. In cases of popliteal aneurism, forcible flexion of the leg upon the thigh is a very important method, and requires to be again investigated. It is harmless, readily employed, not troublesome, since it requires neither costly apparatus nor numerous assistants; it requires some intelligence and patience on the part of the patient, and on the part of the surgeon, active watching.

6. In some cases it has been followed by very rapid success, but even when the first attempts have been fruitless, it may at length prove successful after a long employment with short sittings and wide intervals.

7. Its efficacy depends, without doubt, on certain conditions hitherto but little studied, such as the position and dimensions of the vascular fissure, the

relations, the dimensions, and consistency of the sac; in some cases it acts by causing indirect compression.

8. The prolonged faulty position of the joint presented in M. Verneuil's case no serious inconvenience; the articular stiffness gradually disappeared, and all the movements of the joint were restored.

9. The cure in this case required a long time; but it must be acknowledged that without the flexion it would probably have been impossible and undoubtedly more painful and dangerous.

10. In M. Verneuil's case some benefit was derived from the other accessory means of direct and indirect compression, but still forcible flexion had taken the chief part in the cure.

ART. 179.—*Treatment of Derbyshire Neck.*

(*The Lancet*, January 2.)

Dr. Lücke, of Berne, has lately published, in the *Berliner kl. Woch.* (Dec. 28th, 1868), an article, in continuation of a former paper inserted in the same journal, touching the method of treating hard goitre by injections of strong tincture of iodine into the parenchyma of the tumor. In small goitres, one puncture at a time, with the syringe of Pravaz half filled with tincture, seems enough; in larger growths, two punctures may be made at the same time. These injections should be renewed at intervals, which the author cannot fix beforehand. If the local and general reaction is not considerable, the operation may be pretty often repeated. The reaction may be very powerful, and it will therefore be proper not to attempt the injections when the patient is in danger of being asphyxiated by the pressure of the tumor. Dr. Lücke mentions cases where reduction of the growth took place very rapidly, and he congratulates himself on his success. When, from its mobility, the tumor cannot easily be punctured by the canula, the author advises the use of a continuous current by means of needles implanted in the parenchyma; but this method has not been very successful in his hands. Large masses of strumous glands might also be treated by injection of tincture of iodine into their interior.

(B) CONCERNING THE TRUNK.

ART. 180.—*On Pleuritic Effusions and Thoracentesis.*¹

By Professor DUPRÉ, of Montpellier.

(*Gazette Hebdomadaire*, No. 14, 1869.)

The author in this paper deals with the primary idiopathic collections of fluid, which he calls *sero-plastic* or *rheumatic* effusions. It is in these cases that thoracentesis is a truly sovereign remedy, as the following statistics of seventy-six cases operated on by Professor Dupré prove:—

Cases operated on in the second week, 47. Cures, 46; death, 1.

Cases operated on in the first month, 19. Cures, 5; deaths, 4.

Cases operated on in the second month, 8. Cures, 5; deaths, 3.

Case operated on in the fifth month, 1. Cured.

Case operated on in the seventeenth month, 1. Cured.

With regard to the pathogenic diagnosis, M. Dupré divides pleuritic effusions into three principal orders:—

1. The essentially *inflammatory* effusions which accompany or succeed to true pleuritic attacks. These are rapidly absorbed without the intervention of thoracentesis.

2. The serous accumulations, true *hydropsies*, which are formed in the pleuræ

¹ Communicated to the Académie de Médecine.

in consequence of organic lesions or general morbid changes. The predominant danger of the lesions which have caused these effusions, the nature of the effused serosity, and its incessant tendency to increase in quantity, demonstrate fully the inutility of puncture.

3. Finally, those which the author styles *rheumatic* or *sero-plastic* effusions, the commencement of which is often marked by a slight rigor and a painful sensation at some one part of the thorax. Sometimes they follow directly articular pains or sciatic neuralgia. In some circumstances the initial thoracic pain is very acute, and causes great impediment to respiration; but it is superficial, extended, not circumscribed, mobile, and increased by movement, apyretic or with a fever quite out of proportion. Who does not recognize here veritable pleurodynia, true rheumatism of the pectoral muscles? But it happens that during the course of this painful condition one discovers an effusion into one of the pleural cavities, obscure at first, and then gradually becoming superabundant, so as to form in time a considerable liquid accumulation. This effusion accumulates without pain, without oppression, without cough. There is no subjective dyspnoea, no fever, and the appetite and capacity for sleep are preserved. Still, there is a trace of lividity in the features, an abnormal effort of contraction in certain muscles of the face or neck, and a sudden interruption of the great respiratory movements in the midst of their evolution, the decubitus is unilateral, there is interruption, irregularity, and diastole of the pulse, all of which signs indicate the existence of the disease before its physical symptoms have been openly demonstrated. This affection has been described by M. Pidoux under the name of latent pleurisy.

Against such effusions as these medical treatment acts slowly, and is uncertain in its results, and in some cases powerless. The slowness of its action permits the formation of irremediable lesions or the occurrence of lamentable results, and even sudden, instantaneous, and unforeseen death.

Professor Dupré strives to demonstrate that puncturing the pleura and evacuating the effused fluid may prevent these bad results, and that this small operation adds absolutely nothing to the gravity of the situation.

Except with special indications to the contrary, the author perforates the sixth intercostal space on the right side and the seventh on the left, in the course of a line drawn perpendicularly from the centre of the axillary fold to the hypochondrium.

M. Dupré terminates his article with the following conclusions:—

1. There exist idiopathic pleural effusions, of which apyrexia, latency, and progression are the habitual characteristics.
2. They are to be distinguished from inflammatory effusions and from hydropies by the whole of their clinical characteristics, by which they are brought near to rheumatic affections.
3. The presence of plastic serosity in the pleura and its prolonged existence there constitute a real danger. It is necessary therefore to evacuate the fluid as speedily as possible.
4. Thoracentesis practised according to the prescribed rules is absolutely harmless. Its immediate action and its direct results do not expose the patient to any danger.
5. It is necessary to perform the operation immediately in cases where the effusion has lasted longer than fifteen days, particularly when it is on the left side and occupies the whole pleural cavity.
6. In those cases where it is formed under the eyes of the observer recourse should not be had to thoracentesis until after the tenth day, and when at least two-thirds of the pleural cavity have been occupied by fluid.

ART. 181.—Aortic Aneurism: probable Cause of its great prevalence in the Army compared with the Navy and Male Population, and consequent Remedy.

By A. B. R. MYERS, Assistant-Surgeon, Coldstream Guards.

(*The Lancet*, February 20.)

Mechanical obstruction to the circulation is, in the author's opinion, the chief cause of this disease in the army, and is produced as follows:—

When the peasant leaves the plough and becomes a soldier, two great changes at least are gradually effected in him—*vis.*, his limbs from being stiff are rendered supple, and his chest, which *had* nothing to restrict its movements, becomes a partially fixed, though to some an imposing-looking structure. By some experiments made with the spirometer, the author finds that men standing at "attention" with their tunics buttoned up, without their arms and accoutrements, suffer a loss of about twenty cubic inches on forcible expiration, the upper thorax remaining expanded, and consequently also the upper lobes of the lungs; whilst the diaphragm and lower lobes are brought into special requisition. Such a condition must surely impede the passage of the blood from the main trunk to its thoracic branches. Mr. Myers considers this prolonged over-distension of the air-cells of the upper lobes may weaken their elasticity, and tend to the production of tubercular disease; and this, if he mistakes not, is the opinion of Dr. Quain.

The next and main cause of mechanical obstruction is due, Mr. Myers thinks, to the manner in which the tunic is fitted round the neck; neatness being the great point studied, although, no doubt, it is tried to combine this with some comfort. Such, however, is hardly possible according to the present pattern; for the collar, fastened by one large hook, must be made to fit tightly, so that the cloth shall sit smoothly beyond it, and the amount of freedom is tested when the soldier is standing still.

How easily this will explain the frequency of faintness in the ranks after a little extra exertion. In illustration of this, Mr. Myers once measured the neck and tunic-collar with fastening of a private whilst standing at ease a few hours after he had fainted in the ranks. The former measured $15\frac{1}{2}$ inches, and the latter 16 inches, without making any allowance for the stock and the inward curvature of the hook, which comes always a little above the upper margin of the sternum. This constriction round the neck, though possibly not felt when the soldier is at rest, must be a great check to the circulation when he is using any exertion; and with the increased action of the heart at the time, the aorta must become dilated beyond its normal limits, its elastic fibres weakened, if not ruptured, and aneurism be the not improbable result.

Inspector-General Lawson draws attention to the special prevalence of disease of the heart and great bloodvessels amongst the troops at the Cape; but he does not offer any explanation of it. Mr. Myers is informed, however, that they have to endure very great fatigue in long marches over hilly districts. Mr. Lawson points out the great increase in the deaths from the above throughout the army of late years.

Mr. Myers would suggest that this might be attributable to the great alteration in the collar in 1855. The old high stiff collar, with its three hooks and stock, upon which the point of the chin rested as in a vice, though most uncomfortable, fitted of necessity loosely round the neck, and, in fact, was only an exaggeration of the present comfortable collar of the Prussian army; and old soldiers whom the author has asked state that the pressure round the lower part of the neck was not nearly so great in those days as it is now.

In 1856, the 52d Regiment, stationed in India, received the new tunic as at present worn; but the colonel, considering that the pattern of collar was objectionable, had it much enlarged at his own expense, and made to fasten with three hooks. This was worn in the regiment for eight years—namely, until its return to England; and it was universally liked by the men.

On examining the annual statistics and manuscript reports of the regiment, Mr. Myers finds no instance of invaliding or death from aneurism throughout that period, the average annual strength having been 839.

With these facts Mr. Myers feels convinced that the amount of aortic aneurism in the army may be much diminished by the tunic being fitted more loosely round the neck and upper portion of the chest; nor can he see the propriety of making any portion of the soldier's dress so tight as to place him at a great disadvantage in regard to health, comfort, and usefulness when actively employed, and especially now that the capabilities of each individual are being so much more studied than formerly.

ART. 182.—*On Resection of the Ribs.*

By M. DEMARQUAY.

(*Gazette Médicale de Paris*, February 5, 1869.)

M. Demarquay thus describes the operation for removing a rib :—

"The most simple proceeding consists in making an incision parallel to the rib or costal cartilage which the surgeon intends to remove. A perpendicular incision is then carried through each extremity of the first. These two terminal incisions should be increased in extent if it be proposed to remove more than one rib. The skin and subjacent tissues being incised, that part of the rib which the surgeon wishes to remove must be exposed. This is then isolated at one of its extremities from the pleura and periosteum. If the isolation of this portion of the bone can be readily performed, it may at once be cut through with resection pliers; if the passage of the cutting pliers be attended with difficulty, the surgeon may slip under the rib a large grooved sound, and afterwards along the groove of this a chain saw; during the use of the saw the sound should be allowed to remain, or be replaced by a spatula, in order to prevent laceration of the subjacent pleura. This having been done, the diseased bone is divided at the other extremity in a similar manner. The surgeon has then to deal with a floating portion of rib attached only at its deep surface; this must be carefully detached, leaving as much as possible of the periosteum. If several ribs require resection, it will be necessary to make the first incision parallel to two ribs and extending along the middle of the corresponding intercostal space; the two incisions made perpendicular to this should be more extensive. Immediately after the operation the vessels are to be tied, and a very simple dressing to be placed over the applied flaps. If the surgeon has had the misfortune to open the chest, it will be necessary to oppose as much as possible the introduction of air; in the dressing, the two skin flaps when brought together should be covered by bands of plaster, which are then covered by lint saturated with collodion, in order to close at once the chest. If this result can be attained, it is very probable that the air already taken into the chest will be promptly absorbed without causing any serious accidents. In fact, I have been able to produce pneumothorax in animals by carefully introducing air into the pleural cavities by subcutaneous method without any subsequent inflammatory affection resulting, as the injected air was absorbed. But if, in spite of these precautions, empyema should supervene, it will be necessary to make a free opening, in order to give exit to the pus and empty the cavity."

ART. 183.—*Treatment of Lateral Curvature of the Spine.*

By BERNARD E. BRODHURST, F.R.C.S., Lecturer on Orthopædic Surgery at the St. George's Hospital.

(*The Lancet*, May 29.)

The treatment of lateral curvature, the author writes, can only be undertaken with advantage when the cause of the curvature is understood, and further, when the order in which the various curves have been formed is understood.

It must be obvious to all who reflect on the subject that it is useless to endeavor to remove a spinal curve whilst the cause of curvature yet remains; for even should the curve be removed, it will recur so soon as the means which were adopted to remove it are discontinued, and the same cause will immediately again distort the spinal column in the same manner as before. Thus, let us, for instance, suppose that some affection of the lower limbs has occasioned obliquity of the pelvis, a primary lumbar curve and a compensating dorsal curve. The treatment which was formerly adopted was, without reference to the cause of curvature, to make pressure on the convexity of the dorsal curve. This mode of treatment was not only useless, but positively injurious: it increased the lumbar curve, and flattened still more the flattened ribs.

The course of treatment which should be adopted is, in the first instance, to remove the cause of the obliquity of the pelvis. Whatever this may be—whether it be some affection of the foot, knee, or hip—it should be treated and removed, if not before, at least at the same time as the lumbar curve is being treated. Again, when the dorsal is the primary curve, it may be treated by means of a portable instrument, while the lumbar curve is supported by another portion of the same instrument. In this form of curvature, muscular exercises are useful to develop the muscles on the concave side of the curve.

The treatment of spinal curvature should be undertaken so soon as the slightest distortion is perceived. It is difficult to remove a spinal curve at any time; especially it becomes difficult when the disposition to curvature is inherited, and it can only be removed when mechanical means are rightly directed to this end. It was with good reason that Sir Benjamin Brodie said: "The treatment of the disease cannot be begun too soon after the first signs of spinal curvature are perceptible."

A slight curvature of the spine is by some considered to be a matter of such trivial importance as to be unworthy of attention. It is a very serious error to offer such advice, however, and in later years it must occasion great distress. However trivial spinal curvature may appear in the commencement, its course is necessarily to produce increasing deformity, with more or less pain, and impairment of the general health. So little are the laws of equilibrium understood, that it is imagined by some that a wry-neck, or a "growing out" shoulder, or an oblique pelvis is an affair of small importance, and that distortion will probably not increase beyond that which is at the time observed. Some even are bold enough to imagine that a child will "grow out" of these distortions. These are delusions which observation quickly dispels. When curvature of the spine, from whatever cause, has commenced, it must go on increasing until, by the formation of compensating curves, the equilibrium of the body is restored.

Having explained how pathological spinal curves are formed, and how they are compensated, so that the equilibrium of the body may be restored, the author proceeds to consider the application of mechanical means to the removal of spinal curves.

So long as a spinal curve is incipient, it may not be necessary to have recourse to mechanical support to the spine itself; but it may be sufficient to remove the exciting cause of distortion, and to develop the muscular system by means of well-directed exercises. When, however, these measures are found insufficient, support should be given to the spine itself without more delay.

If it be a fact that one curve is first formed, and that others are formed as compensatory of this primary curve—and no one can doubt it who has watched these cases attentively—then it should follow that treatment must in the first instance be directed especially to the removal of this primary curve; for to remove a secondary curve without giving efficient support to the primary curve is the most certain mode that could be devised of increasing the original curve. Having determined, then, which is the primary curve, force should be applied (not on the greatest convexity of the dorsal curve, to flatten still more the ribs and render the sternum prominent) in that direction which shall tend to restore

¹ Lectures on Distortion of the Spine not connected with Caries.

the position of the ribs, and also to restore the vertebræ, which have undergone some rotation. This is most effectively done by applying the force to be used to the lower arc of the curve, both of the primary and of the secondary curve, when the curves are formed from below upwards; and when they are formed from above downwards the lower arc of the dorsal curve should be supported, and the upper arc of the lumbar curve. When the combined forces of a well-adapted instrument are made to act in the directions now indicated—namely, obliquely towards the centre, they tend to unbend the primary curve. The movement which is thus commenced in the primary curve is often greatly assisted by muscular action on the compensating curve. In this manner the several curves are at the same time acted on and unfolded.

The time which is necessary for the completion of this unfolding process depends on the degree of fixity of the curve, and on the ability to bear the treatment. Some never shrink from a well-fitting instrument, while others cannot bear effective pressure. Among the latter are those who suffer from rickets. Again, some cases are necessarily incurable, and they must be recognized from the beginning; such as those which are produced by inflammation and its results within the thorax, from congenital malformation, and also where ankylosis has taken place, whether in angular or in lateral curvature; for in the former a slight lateral curve not unfrequently forms above and below an irregular union, and in the latter, bands or bosses of bony matter are thrown out, uniting two or more vertebræ.

It is not necessary in this place to say that it is of the utmost importance to attend to the general health in the class of cases now under consideration, for constitutional treatment is especially needed where there is debility, and debility and rickets are the principal predisposing causes of spinal curvature. At the same time, therefore, that mechanical treatment should, so far as is possible, be made conducive to the restoration of health.

ART. 184.—*Spina Bifida; Injection of Iodine; Recovery.*

(*The Lancet*, May 1.)

The rule is that these cases die. M. Roux, of Meximieux (France), has recently published in the *Bulletin de Thérapeutique* the case of a girl, six weeks old, presenting this deformity. The tumor hung from the extremity of the sacrum to the lower third of both thighs. The author first made an exploratory puncture, and removed about an ounce of a limpid fluid. He tried then the following plan: An assistant was desired to hold the tumor in such a manner as to occlude the opening into the spinal canal; the operator then injected an ounce of the following solution: Distilled water, eleven drachms; tincture of iodine, three drachms; and iodide of potassium, 180 grains. The liquid was left five minutes in the sac, the latter being kneaded with the hand of the operator. The solution was then withdrawn to the last drop by the exhausting agency of the syringe. This proceeding succeeded so well, that in a fortnight there was only a hard nucleus left, no larger than a walnut. M. Roux attributes his success to the occlusion of the canal, and to the withdrawal of the very last drop of the injected fluid.

ART. 185.—*On Kelotomy without Reduction.*

By Dr. MARC GIRARD, Paris, 1868.

(*Gazette Hebdomadaire*, No. 9, 1869.)

There are certain cases in which the reduction of a strangulated hernia is not practised after opening the sac and dividing the stricture; as when this proceeding cannot be performed and when the morbid changes of the intestine are such as to threaten its rupture into the abdominal cavity. M. Marc Girard raises to the height of a general proceeding in kelotomy this practice of non-reduction of the intestine. According to his views, non-reduction assures and

hastens the cessation of the symptoms of strangulation, and constitutes a prophylactic measure of great value against peritonitis following operations for strangulated hernia. Many arguments in favor of this practice are given by the author, and also the reports of twenty-five cases of strangulated hernia in which it was resorted to. In these cases there were twenty recoveries and five deaths. M. Girard, in discussing the conditions of success and failure, finds in these facts the demonstration that a pure and simple abandonment of the loop of intestine in the wound is attended with no danger; it is the reduced intestine that sets up peritonitis; consequently, by not practising reduction, peritonitis will be avoided.

ART. 186.—*Purgatives in Strangulated Femoral Hernia.*

By WILLIAM STOKES, M.D.

(*Medical Press and Circular*, March 17.)

At a meeting of the Surgical Society of Ireland, held Feb. 19th, Dr. Stokes, jun., brought under the notice of the society the following case of strangulated femoral hernia, which was recently operated on by him in the Richmond Hospital, not only on account of its presenting some features of peculiar interest, but also because he was most anxious to obtain the opinion of members of the society who have had practical experience in these cases, in reference to an important point in connection with their treatment after operation. "The case," Dr. Stokes states, "was one of a young man, aged twenty-four, by occupation a clerk, who was admitted into the Richmond Hospital on the 21st of last month, having been recommended to me by Dr. Gogarty. The patient stated that he had been ruptured for five years, but up to last August he never had suffered any inconvenience, having always been able to reduce it without difficulty. On the 23d of last August, while straining at the water-closet, the hernia came down and became strangulated, and shortly after he was sent to the Richmond Hospital. The patient having been brought fully under the influence of chloroform, I succeeded in reducing the hernia without much difficulty. After this the patient wore a well-fitting truss, and suffered no inconvenience until the morning of the 21st of last month, when, during a violent fit of coughing, the hernia came down and again became strangulated.

"I may mention in passing that, after reducing the hernia on the first occasion, I felt immediately after a distinct fulness in its site, which I rightly considered to be the sac which I had not succeeded in returning.

"When admitted into hospital for the second time he had all the usual signs and symptoms of strangulation, vomiting, hiccough, eructations, pain in groin, tenderness in abdomen, a small and slow pulse, and great anxiety and depression. As I had formerly succeeded in reducing the hernia, and as the strangulation was only of six hours' duration, I anticipated little difficulty in reducing it by the taxis. My anticipations, however, were not to be realized. Taxis was tried with great care, but without producing the slightest effect on the tumor. Directions were then given to put him into a warm bath, to get a full opiate, and, an hour subsequently, to get a tobacco enema and tobacco stupe over the abdomen. This treatment had the effect of relieving the pain to a great extent, but had none whatever in diminishing the tension of the tumor. I may mention also that the taxis was tried while the patient was in the hot bath, by my clinical clerk, but without success. No effort, therefore, was spared to save the patient from the risk of the operation of herniotomy. At five o'clock in the afternoon I saw the patient again, and as the hernial tumor was as dense as before, and the pain recurred and all the other symptoms had increased in intensity, I operated, and, in doing so, had the advantage of the able assistance of our president, who kindly came to see the case. As the strangulation was so recent, I determined, if possible, to perform the extra-peritoneal operation, though I had some doubts as to my being able to do so, from the fact that in this case the hernia was strangulated in an old previously unreduced hernial sac. This constituted the chief peculiarity of this case. The difficulty in reducing the hernia without

opening the sac in this case arose from the existence of extensive adhesions between the thickened unreduced hernial sac and the edges of the femoral ring. This I found when I arrived at the sac. I passed my finger all round its neck, and nowhere could I feel the edge of the ring. I then forcibly introduced a broad-bladed director between the sac and the ring, at the upper and inner margin of this ring, into the abdomen, breaking down the adhesions that had formed in this situation. The stricture was then divided in the ordinary way, and the intestine, but not the sac, returned. The operation being completed, he got a powerful anodyne draught, after which he fell asleep. The following day he got another opiate. The third day, all pain and tenderness having subsided, and the patient feeling inclined to sleep, opium was not considered any longer necessary. I need not enter into the particulars of the daily progress of this case. But this fact is worth mentioning, that there was no motion from the bowels until the seventh day after the operation, which motion was induced, not by the administration of any purgative, but by a simple warm water enema. After this the patient had one motion from the bowels regularly every day. I may mention also that the wound healed by the first intention without the adoption of the so-called antiseptic treatment, and the patient was enabled to leave the hospital on the twelfth day after the operation.

"Looking at the result obtained in this case, as well as in other cases of strangulated hernia which I operated on during the past years, and in which during the after-treatment no purgatives were administered, makes me very desirous of hearing the opinions of some of the members of the Society as to value of the administration of purgatives in the after-treatment of cases of strangulated hernia. I should be sorry to urge such a revolutionary step in surgical practice as the abandonment of purgatives in these cases, but I think that their utility in the great majority of them may be questioned. In Paris, for example, where the mortality after herniotomy is, I may say, quite unexampled, the routine practice is shortly after the operation to administer an active cathartic draught. I remember during my pupilage having seen several cases in which calomel purgatives were administered after operation. The question, however, which I consider to be of such eminently practical importance is whether, in a local enteritis, which must, to a greater or less extent, be present in all cases of strangulated hernia, we should endeavor to excite by artificial means peristaltic action at an early period, or whether we should abandon such attempts altogether, or at all events defer them until there is reasonable probability of all congestion and inflammation having entirely subsided. In other words, we should determine whether the principles which guide us in the treatment of cases of ulcerative enteritis with perforation, such as we have occasionally opportunity of observing in typhoid fever, should not also be adopted in the treatment of strangulated hernia after operation."

Professor Hargrave observed that the point referred to by Mr. Stokes was important, but not new. In his early experience it was always the practice to give purgatives if the stomach would bear them. This, however, failed, and as they obtained more pathological knowledge they saw why it had not been successful. They were endeavoring by purgatives to move a paralyzed muscle, and thereby doing more injury. Now, opium was given to afford the muscles time to recover, after which the bowels would quietly take on their natural action. He was of opinion that crude opium would be found more powerful as an anodyne, and would remain more quietly on the stomach than powdered opium. Again, if it was desirable to move the bowels, enemata were preferable to purgatives.

Mr. Wharton bore testimony in favor of giving rest to the abdominal contents in cases of strangulated hernia. This was in fact the key to success in such operations. In a case under his care constipation continued for a fortnight, and with the best results.

Mr. Collis observed that in the Meath Hospital it was the rule not to give purgatives except there was a special reason for it.

Mr. Croly said a similar line of treatment was adopted in the City of Dublin Hospital. He had operated in eight or nine cases of strangulated femoral hernia, and in one case last session, in which he was assisted by Mr. Stokes, the

bowels were not moved for seven or eight days after the operation. The patient complained of pain, and he put off using purgatives, believing them to be injurious. In eight or nine days after the operation a fecal fistula formed, and he was satisfied if any purgative had been given the contents of the bowel would have become extravasated into the peritoneal cavity. In his last hernial operation the patient had a motion before he left the room after the reduction of the hernia.

Dr. Hewitt observed that Dr. Graves recommended the use of opium to allay peristaltic action. The great object was to keep the intestine at rest and give it time to recover. It was important that the hard feces should not be brought into contact with the softened wall of the bowel. The use of enemata might also be injurious by exciting peristaltic action in the inflamed intestines. Dr. Stokes' father many years ago pointed out the principle which should guide the practitioner in such cases where there was a tendency to rupture, and showed the advantages of large doses of opium. He (Dr. Hewitt) had given as much as twenty-four grains of opium in twenty-four hours without producing narcotism.

Dr. Darby said that in cases of lead colic, opium was one of the most valuable remedies. This had been his experience, and Dr. Martin, of Portlaw, who had many cases of the kind to deal with, found it the same. There was one point with regard to the operation which Dr. Stokes had not alluded to, nor perhaps had it ever been brought before the Society. Some years ago he saw the case of a young woman who had been operated on for strangulated femoral hernia. She told him she heard the dressers in the hospital say she had been operated on without the sac being opened. She recovered; but she came into the hospital again with a tumor as big as his two fists, and the opening into the abdomen was so free that he could put his fingers up and follow the tumor into the abdomen. She was disabled for life. No truss was of any use to her. He drew the inference that in that operation the tendon had been too freely divided; and shortly afterwards he had an opportunity of operating in a case of femoral hernia. He opened the sac, and—(here Dr. Darby was told by the president that he was not at liberty to depart from the discussion of the point raised by Mr. Stokes.)

Dr. H. Kennedy said he saw a case in which no inflammation was found in the intestine after an operation for strangulated hernia. The intestine was found to be congested, but without any trace of inflammation. He thought it might be judicious where the intestine was paralyzed to try the effect of a weak stream of electricity. He believed with Dr. Hargrave that solid opium was frequently a better preparation than others. He preferred using the watery extract of the drug.

Mr. Richardson said that when he attended Dr. Hutton's clinique in the Richmond Hospital, he frequently spoke against the premature use of purgatives after the operation.

Mr. Stokes, in reply, said that in the last case where he saw Mr. Hutton operate he heard him order ten grains of calomel to be placed on the patient's tongue. He thought it made little matter what preparation of opium was used, provided the desired effect was produced. A solution of muriate of morphia—about thirty or thirty-five drops of the Pharmacopœial preparation—was that which he preferred. He thought seven days a long time for a case to go on without a motion from the bowels, and therefore he ordered a warm-water enema; but Dr. Wharton said he had known constipation to last for a fortnight without injurious consequences, and that should render them more patient in looking for a motion from the bowels in these cases. Mr. Collis had stated the rule of practice in the Meath Hospital, namely, not to give purgatives; but it was not the invariable rule, for he recollected a case in the practice of Mr. Porter, where purgatives were given a short time after the operation—if he mistook not, on the following day. Dr. Darby's observations were most interesting, and he hoped he would draw attention on some future occasion to the modification of the operation. Mr. Croly made reference to an interesting case which he saw him operate on, and which was brought to a most successful conclusion, following the mode of treatment he had found so useful, namely, in giving nothing in the after-treatment but large doses of opium.

ART. 187.—*A Case of Lumbar Hernia.*¹

By M. HARDY.

(Archives Générales de Médecine.)

M. Hardy reported a case of lumbar hernia which occurred in a female thirty years of age, who was admitted into the Hôpital Saint Louis to be treated for syphilitic paralysis. This hernia was produced after violent efforts made by the patient in order to overcome an obstinate constipation which was associated with paraplegia.

The tumor, eight centimetres in diameter, was situated in the lumbar region, above the superior border of the os ilium, and about three fingers' breadth from the anterior superior iliac spine. It was subcutaneous, furnished with a broad base, hemispherical, and about the size of the fist. It was soft, painless, covered by skin of a normal color, without fluctuation, yielding on manual pressure, very sonorous on percussion, readily reducible with a characteristic gurgling sound, and returned on coughing or other efforts. The tumor could be readily and completely reduced, but reappeared even during rest in bed by an effort of coughing, which communicated an impulse to the hand placed over the tumor.

After the reduction of the tumor a triangular gap could be made out, the base of which was formed by the superior border, hollowed at this point, of the os ilium, and the remaining two sides by borders, both of which—but the posterior one particularly—were thick and rigid.

The patient could digest her food well, and complained merely of slight colic. There was no other hernia, but a similar triangular interval could be made out on the opposite side.

ART. 188.—*Note on the Cure of Acute Orchitis in Twenty-four hours.*By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital,
Professor of Surgery at Queen's College.*(British Medical Journal, February 16.)*

The following case is related by Mr. Jordan: A man, aged thirty, had intense pain, intolerable tenderness, and great swelling and induration, in both testicles, and could not stand upright. The scrotum was covered with a solution of nitrate of silver (two drachms to an ounce); a stripe of vesication was established over the upper halves of both femoral arteries by means of linimentum iodi; and the testicles supported with cotton-wool. He was well in twenty-four hours.

ART. 189.—*On Nephrotomy as a means of Treating Renal Calculus.*²

By THOMAS SMITH, F.R.C.S., Assistant-Surgeon to St. Bartholomew's Hospital, and Surgeon to the Hospital for Sick Children.

(The Lancet, May 15.)

The object of this paper is to introduce to the notice of the Society, for discussion and consideration, a method of treating stones in the kidney and ureter, that the author deems worthy of more thoughtful deliberation than it has hitherto received. The operation of nephrotomy, though mentioned and recommended, with certain reservations, by Hippocrates, was by him and his followers

¹ Communicated to the Académie de Médecine.² Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, April 27.

restricted to cases in which there was an external swelling, cases in which, as they expressed it, "Nature showed the way." Even in this limited application, it is doubtful if the operation has ever been performed, except for the relief of renal abscess. So far as the author can ascertain, nephrotomy has been once employed for the extraction of calculi from the kidney or ureter. This case, which occurred in the seventeenth century, is detailed in this paper. The operation was performed on the person of Mr. Hobson, the British Consul at Venice, from whose kidney an Italian surgeon successfully removed two or three small stones, by an operation performed in the lumbar region. Mr. Hobson subsequently visited England, and was seen and examined in London by competent medical men, who have given an account of the case in the *Philosophical Transactions*. In discussing the subject of the paper, the author lays down as most desirable—1st, that we should be able clearly to recognize the existence of stone in the kidney; and 2dly, that an operation should be devised for the removal of the stone which should not put the patient's life in a danger disproportionate to the gravity of his disease and his desire for relief. A method of examining the kidney by palpation is described, by which the author has been able in one case to recognize the existence of tubercular deposits in the infundibulum of the ureter. Should it be impossible from any circumstance to employ this method of examination, so as to recognize a renal calculus, the author is of opinion that in some cases the subjective symptoms alone are so pathognomonic, that the diagnosis might be considered sufficiently clear to proceed to operation; since by the plan of operation recommended in the paper, the kidney could be made the subject of tactile examination without serious danger to life. A plan of operation is detailed by which the pelvis of the kidney can be reached so as to examine it with the forefinger without injury to any important structures.

Whether the performance of this operation would enable a stone to be removed without fatal damage to the renal tissue would (in the author's opinion) depend largely upon the shape, size, connections of the stone or stones, and the physical conformation of the patient; and while he confesses that there are cases of long-standing branched calculi that could not be removed without inflicting unjustifiable injury to the kidney or the surroundings, yet he believes that he has met with renal calculi that could have been removed without any such violence. If the conditions affecting the removal of the calculus were unfavorable, he believes that the operation would reveal these conditions without injury to the renal tissue, and could then be abandoned without having placed the patient's life in serious danger.

The author thinks that the possibility of removing a stone from the kidney by nephrotomy should first be decided by operation on the dead body of one who has died with a stone in the kidney. He hopes that this experience may shortly be forthcoming, either by others performing the operation themselves on patients who may have died with the disease, or by the kindness of some surgeon giving the author an opportunity of performing the operation under similar circumstances; and this is one of the chief reasons why the author has made this communication to the Society.

ART. 190.—*The Painless Removal of Hæmorrhoids.*

By HOLMES COOTE, F.R.C.S., Surgeon to St. Bartholomew's Hospital.

(*British Medical Journal*, February 13.)

By the use of the ether spray Mr. Coote prevents all pain during the operation. In dealing with a strictly external pile, he says that the removal may be at once effected, painlessly and safely, by first freezing the part with ether spray, and next by cutting it away with the scissors. If there is any hemorrhage, it can be easily checked by ligature or needle. Internal piles, which have no ligature, are thus dealt with: "The patient, on hands and knees, strains and protrudes the affected part. The enlarged veins are next touched carefully with nitric acid, and the part is returned, an opiate suppository being then introduced." Hæmorrhoidal swellings, which are partly internal and partly

external, and which consist of large venous trunks—which it would be dangerous to divide without precautions, and which could not be well removed by acid or by cautery—are best and safest treated by Mr. Henry Smith's clamp and hot iron.

ART. 191.—*Obstinate Cases of Acute and Chronic Gonorrhœa, successfully treated by Injections of Glycerine of Tannin.*

Under the care of Mr. J. D. HILL, of the Royal Free Hospital.

(*The Lancet*, March 20.)

The treatment which Mr. Hill says he has extensively employed in hospital and private practice was, he believes, first introduced by Dr. Ringer, of University College, who has kindly favored him with the following remarks: "For some time past I have been making observations with an injection of glycerine of tannin in chronic gonorrhœa and gleet, and have found it of great use, especially in gleet, which I believe may be removed more quickly with this injection than perhaps any other. In the acute stage of the disease a little care is necessary, or great pain is caused. This may be prevented by diluting the glycerine of tannin with equal parts of mucilage. Another point to attend to is that the injection should not be injected too far, or it causes a great and frequent desire to make water."

Mr. Hill is therefore enabled to support the experience of Dr. Ringer, not only by recent cases, but also by observations on the treatment of gonorrhœa by tannin and mucilage injections extending over some years. These injections he first used in the proportion of ten grains to the ounce, but latterly, as suggested by Dr. Ringer, he found the glycerine of tannin more serviceable, slightly modified, however, as to the diluting agent.

The following is the method which Mr. Hill recommends to all patients using injections:—

"The bladder having been first emptied, the bottle containing the lotion is to be well shaken, and about two drachms of it briskly poured into a saucer. This must be quickly drawn into a glass syringe with a bore in the nozzle equal to a No. 6 catheter. The penis is then to be held in the left hand, with the thumb and little finger respectively placed upon the superior and inferior portions of that organ close to the symphysis pubis, and the fore and middle fingers resting in like manner upon the superior and inferior surfaces of the glans close to the meatus uriniarius. The syringe, with the piston withdrawn, is now to be taken up with the right hand, and the nozzle as far as its shoulder carefully passed into the urethra. Previous to injecting, the thumb and little finger of the left hand must compress the root of the penis, in order that the urethra be closed against the passage of any fluid beyond this point. When a sense of tension is felt, the syringe may be withdrawn; but the front fingers must previously be so applied as to compress the glans, and thus prevent any escape of fluid from the meatus. Next, with the thumb and forefinger of the right hand the fluid in the urethra is to be set in motion, and so kept for four or five minutes. This will be attended with a gurgling noise from the mixture of air and fluid. Thus, when the injection has so insinuated itself within the folds and lacunæ of the urethra as to saturate the openings of the follicles and mucous glands, and permeate the whole of the affected structure, it is allowed to escape.

It is conceived that by these means the bladder is protected on the one hand, and on the other there is a certainty of the fluid being applied to the affected surface of the urethra.

Mr. Hill has notes of six cases in which the glycerine of tannin would appear to have been of great service. In several, injections of zinc, lead, and alum have been employed without much benefit. The formula employed was the following: Glycerine of tannin, three ounces; olive oil and mucilage, of each one ounce.

ART. 192.—*Fission and Extroversion of the Bladder and Epispadias, with the Results of Eight Cases treated by Plastic Operations.*¹

By JOHN WOOD, F.R.C.S., Examiner in Anatomy to the University of London, Assistant-Surgeon to King's College Hospital.

(*The Lancet*, February 20.)

The author commenced by stating that the frequency of this deplorable deformity was greater than was generally supposed. He had himself seen upwards of twenty cases. In its more usual form it was perfectly compatible with viability, and even longevity. One case is recorded by Flajani, of a person aged seventy, and by Quatrefages of two, aged forty-six and forty-nine, respectively. It is much less common in the female than in the male; the author had seen two cases in the female, and operated on one. Cases are recorded by Huxham, Oliver, Bonnett, Thiebault, and Ayres, of delivery of a child at full time in females suffering under the deformity.

In both sexes the ossa pubis are widely separated, and the symphyseal surfaces can be felt projecting under the integuments on each side of the genital organs. In both, the hinder wall of the bladder is seen as a red, vascular, projecting tumor, often ulcerated, and discharging muco-purulent fluid and blood, and surrounded by a cicatrix, which above is blended with, and obscures the umbilical mark. In the male, the penis is usually completely epispadiac, with the urethra open along its entire length. The corpora cavernosa are stunted, and fail to cover the urethra above, and they are connected below by an imperfect corpus spongiosum, forming the lower part of the urethra. The glans penis is grooved above by the urethral gutter, but perfect underneath, and is provided with a frænum, and an abundant but split prepuce. The stunted penis is placed flat against the lower part of the bladder, usually covering by its root the papillary orifices of the ureters. The scrotum is perfect, and contains testes; and often a congenital oblique hernia, or a small ventral hernia, is also present. In the female, the clitoris is split, and the anterior commissure of the labia minora wanting, exposing more completely than in the male the orifices of the ureters, and laying open the urethra. The normal os uteri can be seen in the vaginal groove.

The author then reviewed the theories of the cause of the deformity—viz., that of Duncan and Bonn, who attributed it to the bursting of the foetal bladder from over-accumulation of allantoic fluid; that of Velpeau and Phillips, who considered it to be caused by ulceration of the hypogastric region between the second and third months of intra-uterine life; and that of Vrolik and other teratologists, who explained it by an arrest of development similar to those producing harelip, fissio thoracis, and ectopia cordis. He considered that the latter view was undoubtedly the correct one, but was of the opinion that the arrest of development was itself owing to a process of morbid change resulting in adhesion of the front part of the allantoic mucous and vascular layers to the membranes of the ovum at the site of the future placenta, at about the end of the first month. He gave drawings of the foetal allantoic formation at this period, and described varieties of the deformity illustrative of the period and extent of the arrest of development—from simple fissure of the urethra (epispadias), and of the urachus and abdominal wall simply (ectopia vesicæ), on the one hand, representing a later arrest of development; to those extreme cases presenting a common cloacal opening of the genito-urinary organs and rectum, with imperforate anus, on the other, which are the results of a morbid change and consequent arrest of development at a still earlier period than the cases which form the especial subject of the paper.

Mr. Wood next alluded to the efforts made by surgeons at various times—

¹ Read at a meeting of the Royal Medical and Chirurgical Society, held Tuesday, February 9.

viz., Dieffenbach, Langenbeck, and others in this country—to relieve by plastic operations this frightful deformity, in all instances with partial or complete failure. He briefly described Prof. Pancoast's case operated on in Philadelphia, and Dr. Ayres' in New York, attributing to the former the first adoption of the idea of turning flaps from the sides of the abdominal wall with the skin surface towards the exposed mucous membrane. Dr. Ayres' case was that of a female who had borne a full-grown child four months before, and was entirely successful after two operations. He also alluded to the operations performed by Mr. Holmes in this country. He then gave a detailed account of eight cases in which he had himself operated between the years 1863 and 1869. In seven of these he had been successful in providing a complete covering for the bladder. In the last two he also succeeded in covering the penis with a prepuce, completing the upper wall of the urethra, and forming a fair substitute for the meatus urinarius. In one case (the only female operated upon) an entire failure had resulted, in consequence of the extreme youth and violent crying of the patient.

Three methods of covering the bladder had been employed. The first was by two lateral flaps taken from the groin, with their bases toward the thigh, scrotum, and penis, and united by sutures in the median line, with their raw surfaces towards and touching the exposed mucous membrane of the bladder. After many operations, necessitated by partial failures of the plan, the bladder was at length completely covered in, with only one opening, placed at the root of the penis. The boy died afterwards of erysipelas of the head and face, and the parts operated on were shown in a preparation, the bladder being opened behind to show the union of the flaps within, and the formation of a pseudo-mucous membrane on the raw surface.

The next method consisted in the employment of one reversed lateral flap, in combination with a smaller reversed umbilical flap, both turned with their skin surfaces towards the bladder, and covered by another larger lateral flap, placed with its raw surface downward upon them. The reversed umbilical flap was adopted to obviate the great difficulty experienced in the earlier cases in closing up a fistulous opening which remained above the bladder. It cannot always be employed with safety, in consequence of the extreme tenuity of the abdominal parietes at this part in some of these cases. It was found better to attempt it at the time of the first operation than by a subsequent one, and to make it large enough to afford a firm hold by primary adhesion to the lateral flaps which cover it.

The third method employed consisted in the formation of a larger umbilical flap, turned with its skin surface upon the bladder, and big enough to cover its exposed mucous membrane as far down as the root of the penis. This was covered by two lateral flaps taken from the groin, with their bases towards the penis, scrotum, and thigh, and united in the median line over the umbilical or reversed one, with their raw surfaces in contact with it. By this means the author succeeded, in five cases, in covering by one operation the entire surface of the bladder.

In this step of the operation the chief features of the author's plan, as most successfully practised, are the use of the broad, reversed umbilical flap, to prevent the upper fistulous openings; and the arrangement of the lateral or groin flaps, with their bases turned towards the scrotum and thigh, so as to receive for their supply of blood the external pudic and superficial epigastric vessels from the common femoral uninjured, and so to prevent sloughing or shrinkage.

In the second step of his operation, as performed in the last two cases—viz., that of providing a preputial covering for the glans penis and an upper wall for the urethra, the author availed himself of the front part of the scrotum and the skin of the lower surface of the penis, which he raised from the deeper parts in the form of a bridge of skin, retained at both ends to its original connections, and lifted in the middle over and across the penis, like a saddle. This was placed with its raw surface in contact with that of a reversed fold of skin, turned over from the sides of the opening left by the first operation, the whole being held together by continued wire suture. The sides of the wound in the scrotum were then brought together vertically over the tunica vaginalis and testicles, the

hinder half of the bag of the scrotum being amply sufficient to cover the whole. This part of the operation proved entirely successful in the last two cases, which were the only ones in which the method has been tried.

It was stated by Pancoast that the hairs which afterwards grow on the reversed surface of the flap became gradually shed by the depilatory action of the urine upon them. In the author's two last cases, both adults, the process is certainly going on, but it is still necessary to remove some of the hairs as they grow by the use of a pair of forceps passed into the artificially formed meatus urinarius. This is, however, a process requiring only a little trouble and dexterity on the part of the patient himself, and to be repeated whenever the incrustation of the phosphates upon them causes uneasiness. A very dilute nitric-acid lotion aids in the process of cleansing. In future adult cases, the author proposes to use a depilatory upon the parts previous to operation. As the cicatrices contracted, the orifice of the artificial urethra became more tightened and braced up, and the transplanted dartos could be felt to clasp the finger vigorously when passed into the opening. Already the urine sometimes accumulates in the bladder, when the patient is lying down, in sufficient quantity to be expelled in a stream, on rising, to the distance of a few inches from the penis. In both cases no sinuses now remain. They now wear a silver-plated instrument connected with an India-rubber urinal, made by Mr. Matthews, of Portugal-street. It is closely fitted around the penis, not inclosing the scrotum, thereby removing the pain and annoyance from the sores and tenderness with the trickling urine caused upon the surface of the scrotum. During the night, when the patients lie in the recumbent position, very little urine escapes—not more than can be caught by a sponge placed under the penis; and in the daytime a much smaller and less conspicuous urinal can be worn than that which was necessary before the operation.

The last case operated on by the author—that of a man, aged thirty-five—was exhibited to the Fellows at the meeting. An India-rubber ring can now be placed round the artificial prepuce and the corona glandis, so as to retain the water entirely for a short time. The paper was illustrated by numerous casts, models, and drawings from the several patients in various stages of the operations.

The President, in cordially thanking Mr. Wood for his important contribution, said he had seen many failures, but none to succeed. He had never attempted the operation, not having the courage to face the antecedents of such an operation. Mr. Wood's success was a cause for general rejoicing.

ART. 193.—*Catarrhus Vesicæ.*

(*The Lancet*, January 2.)

This disagreeable chronic complaint is often very obstinate; it may therefore just be stated that M. Mallez has found the following solution injected *into the bladder* very efficacious: water, ten ounces; tincture of iodine, forty-five drops; iodide of potassium, fifteen grains. When the pain is very annoying, add fifteen grains of extract of belladonna to the above. He has also employed carbolic acid, nitrate of silver, and hyposulphite of soda, with advantage.

ART. 194.—*Urethrotomy.*

By Dr. JÜNGKEN.

(*Deutsche Klinik*, No. 51, 1868; and *British Medical Journal*, March 27.)

Dr. Jüngken, in a long contribution on the pathology and treatment of stricture of the male urethra, states, that when the canal is completely closed, recourse should be had to the proceeding of urethrotomy recommended by Syme. This operation the author holds to be one of the most difficult that can be undertaken by the surgeon, as cases often occur in which the operator cannot distinguish the urethra contracted to a capillary fistulous passage from a

true fistula. The knife is frequently carried through a firm cicatricial mass, which is traversed by several old fistulous passages lying close together. Dr. Jüngken, in the performance, observes the two following precautions: 1. The bladder should not be emptied before the operation; because, when it becomes difficult to distinguish the urethra from a fistulous passage, assistance may be given by pressing with the hand above the symphysis pubis and over the bladder, so as to cause the urine to flow away, and thus to indicate its canal. A fine button-sound is then passed into the contracted urethra; and over this a fine hollow sound, upon which the passage is slit upwards and downwards. 2. The skin incision should be sufficiently extensive, so that a full view may be had of the exposed parts, and a clear idea obtained of their relative positions. In many instances, the diseased urethra has been found forced quite away from the normal position. Dr. Jüngken holds that the use of the catheter and of bougies cannot be dispensed with after this operation. The immediate introduction of a catheter is indicated after the operation, and the use of bougies is necessitated after cure during the whole of the patient's life.

ART. 195.—On Vesical Absorption in the Healthy Subject.¹

By M. E. SÉGALAS.

(*Gazette Hebdomadaire*, No. 14, 1869.)

"In the year 1824, my father, in his researches on absorption, proved that the mucous membrane of the bladder did absorb an alcoholic extract of nuxvomica. In 1862 I repeated the experiments of my father, and made out that rabbits, into whose bladders I introduced a solution of sulphate of strychnine, succumbed rapidly under the influence of this poison.

"M. Susine, in 1867, after having alluded to the negative result that had attended experiments made by M. Claude Bernard with curare upon the bladder of dogs, concluded from investigations made upon himself that the vesical epithelium was impermeable by certain substances.

"Fifty centigrammes of iodide of potash dissolved in sixty grammes of distilled water were injected into the bladder in two healthy men. In neither of these experiments, which I watched with great care during forty-eight hours, did the examination of the saliva indicate the absorption of the medicinal agent. When the same dose of iodide of potassium had been administered by the rectum, one readily made out its elimination by the saliva and urine. These new experiments, then, justify us in concluding that the bladder in the healthy man does not seem to absorb iodide of potassium."

ART. 196.—Diagnosis of Chancre.

By BERKELEY HILL, M.B., F.R.C.S.

In his work on *Syphilis and Local Contagious Disorders*, Mr. Hill writes:—

"It is usually easy to decide whether a sore on the genitals is derived from a local contagious ulcer if attention be paid to the distinctions that will be immediately enumerated. It is true, there is sometimes a difficulty in deciding that syphilis has not been imbibed at the same time as the local irritant. This difficulty is impossible to solve in all cases if the source of the sore is uncertain, and if the period necessary for the incubation of syphilis has not elapsed when the examination is made. In practice, nevertheless, such instances are not common; in the great majority of venereal ulcers, a positive opinion can be given at once, and for the rest, a short period of observation suffices for deciding the question, by the speedy appearance of the changes peculiar to syphilis betraying the presence of that disease. The differences between the local chancre, and the primary manifestation of syphilis, are contrasted in the following parallel paragraphs. They are altered from those of one of Clerc's pupils, M. Blacheyre."

¹ Communicated to the Académie des Sciences.

DISTINCTIONS BETWEEN THE LOCAL ULCERS AND THE PRIMARY MANIFESTATIONS
OF SYPHILIS.

Local Ulcer.

1. *Incubation nil*; irritation is at once displayed by reddening and speedy ulceration of the point of contagion.

2. Ulceration frequently begins by a pustule. Ulceration is an essential condition, and is always very active during the first few weeks.

3. The virulent character of the ulceration gives the sore its tendency to enlarge, and its long duration, extending in mild cases six weeks, in severe ones much longer.

4. The aspect of the ulcer is characteristic; it is hollowed, the surface is spongy and undermined; the edges are sharply cut, and the discharge is opaque, yellow, and plentiful.

5. The base of the sore is supple, unless thickened by inflammatory congestion; but this pseudo-induration disappears when the inflammation is subdued.

6. Multiplicity of the sore is the rule. This results from the consecutive inoculations of the parts around with the discharge of the original sore.

7. The lymphatic glands remain either unaffected, or become acutely inflamed, and form abscess or bubo.

8. The matter of these buboes is often inoculable on the bearer. If so, it is pathognomonic of chancre; it also converts the bubo into a chancre.

9. However long the chancre lasts, it remains a local disease.

10. Phagedena and ulceration of inflammatory kind are frequent complications.

11. Pain in the sore is usually sharp, often severe.

12. Seldom met with away from neighborhood of the genital organs.

13. The source a similar ulcer.

14. Antecedent to the disorder, the patient may or may not have had syphilis, and may have had similar ulcers several times before.

Syphilis.

1. Incubation is always of some length, the average being twenty-four days.

2. The manifestation begins by a papule. Ulceration, if accidental irritation is absent, is never active. Superficial erosion is sometimes present as soon as induration begins, but even this is often delayed till the induration is far advanced, and may be altogether absent.

3. The indolent character of the ulceration, of which the duration is uncertain, and depends on the condition of the patient.

4. The aspect of the papule is characteristic; it is often not ulcerous, but simply eroded, or desquamating. When the surface is ulcerated, it is smooth, and covered with adherent scanty secretion. The edges are not undermined, but raised, sloping, or rounded.

5. The base of the papule is of gristly hardness, quite independent of inflammatory action; is peculiar in character; very rarely absent in men, and generally present in women. It usually lasts several months before it disappears.

6. The papule is habitually solitary. When there are more than one the papules are all of one age.

7. The lymphatic glands are almost invariably affected by slow, irregular enlargement of the whole group, at a certain length of time after infection, but suppuration is infrequent, and when present is the consequence of ordinary irritation.

8. When abscess forms around the enlarged lymphatic glands, it is not inoculable on the bearer.

9. Between two and three months after contagion, erythematous and papular eruptions appear on the surface of the body.

10. Any inflammation or extension by ulceration is rare.

11. Absence of pain.

12. Tolerably frequently met with on parts away from the genitals.

13. The source is most usually an ulcerating papule of a syphilitic eruption.

14. Antecedent to this, the patient has not had syphilis, or such a hard-based ulcer.

Local Ulcer.

15. The secretion of the sore is inoculable on the bearer until cicatrization is advanced.

16. The discharge is also inoculable on animals.

17. It may be many times repeated in each individual.

Syphilis.

15. The secretion is very rarely inoculable on its bearer, and so only when its surface is irritated into acute suppuration.

16. The discharge is not inoculable on animals.

17. It is only once developed in each individual.

Exceptions to this are too rare to invalidate the rule.

ART. 197.— *On Prolonged Extension, and on Pain in Coxalgia.*

By Dr. HENNEQUIN.

(*Archives Générales de Médecine*, No. 2, 1869.)

1. Pain is the sole obstacle to prolonged extension in cases of coxalgia.

2. The intensity of the pain is in direct relation to the force of traction and the sensibility of the region inversely to the extent of the surface which supports the extension.

Dr. Hennequin has sought to carry out his principles by means which consist in—1st, the position to be given to the lower limb; 2dly, the choice and the number of the points of application of extension and counter-extension; 3dly, the arrangement of the apparatus. He has demonstrated that the thigh should rest in a position of moderate adduction on a horizontal plane, the trunk being somewhat elevated; to place the lower limb in a double inclined plane is to put it in a position which is contrary to the laws of physics and damaging to the final result.

Arranging according to their value the positions to give to a lower limb subjected to prolonged extension, Dr. Hennequin has placed in the first rank the position *en équerre*; in the second rank the rectilinear position; and thirdly, the position in the double inclined plane, which last should not be employed unless the surgeon be forced. Unfortunately, in coxalgia, the faulty positions of the limb do not allow one always to select one position rather than another.

Passing in review the regions which may receive extension, and the means employed for practising it, M. Hennequin names first the posterior surface of the calf, next the inferior extremity of the femur, next the cutaneous surface, and finally, the malleolar and calcaneal regions. With regard to the means of extension, the most efficacious seem to be the padded band made with a hollow corresponding to the bloodvessels of the popliteal region, the laced bracelet, and bands of diachylon with the stirrup.

The regions which may, simultaneously or alternately, support the counter-extension are always, according to their value, the tuberosity of the ischium, the external iliac fossa, or the horizontal branch of the pubis.

A description is given of an extending apparatus which is capable of making extension in all positions of the limb, correcting at the same time whatever pelvic deviations there may be in the following manner: If the pelvis be inclined laterally towards the sound limb, all the counter-extension is thrown upon the external iliac fossa and the pubic branch of the depressed side; if the pelvis be inclined forward, the counter-extension is applied simultaneously to the two branches of the pubis; if it be inclined backwards, to a single ischiatic tuberosity. The most favorable time for the application of the apparatus in cases of fracture of the femur is from the tenth to the twentieth day after the accident; in cases of coxalgia, from the commencement of the period of muscular spasm.

The force of the traction should be proportionate to the amount of development of the muscular tissue. The best sign of its efficacy is the pain which is produced in the track of the articular ligaments which are concerned in transmitting it to the osseous levers when the powers of the muscles has been overcome.

On the Pains in Coxalgia.—The pains in coxalgia are of two kinds: the first depends on inflammatory processes, and is seated about the morbid lesions; the other occupies more or less remote regions, and resides in the fibrous tissues.

Muscular action, and consequently the faulty position of the limb, is the cause of the latter; inflammation gives rise to the first.

The theories which explain the radiation of the pain from the seat of the disease to remote regions by the medullary canal of the bone, or by nerve filaments, do not seem to Dr. Hennequin to be admissible.

ART. 198.—A Safe and Effectual Operation for the Radical Cure of Varicocele.

By PAUL F. EVE, M.D.

(*American Journal of the Medical Sciences*, January.)

The operation is thus performed: The patient being etherized, the scrotum over the left testicle, previously denuded of hair up to the external abdominal ring, is so secured by the thumb and fingers of the left hand, or, still better, by Ricord's fenestrated forceps for phymosis, but double their length in the blades, that about four square inches of it is excised by a knife, and without opening the tunica vaginalis. Before detaching the forceps, pins are to be inserted through the integuments near the cut edges; around these the figure-of-8 sutures are subsequently applied. Beginning with these at the most pendent part of the scrotum, and ascending towards the cord, when the latter is reached, the veins are carefully examined, if found much enlarged, they are to be separated from the vas deferens and spermatic artery, and an *animal* ligature tied around them just sufficiently tight to arrest the circulation. The entire wound is then closed accurately by the twisted suture. Two weeks generally complete the treatment; they are often up, however, in a week. The patients are to be carefully prepared by diet; the bowels are to be opened the day before the operation. The latter is to be immediately followed by cold water; or by simple dressings and subsequently free ablutions to the parts. Any inflammatory action is to be at once checked. By the fourth day from six to twelve of the pins are to be withdrawn, and all of them by the fifth or sixth. The ligature to the veins Dr. E. has never known to produce uneasiness or any evil consequences. Pins are preferred to needles, from the slowness of their oxidation. Dr. E. recommends the operation described, because by it alone are the two principal indications for surgical interference in varicocele accomplished—the removal of redundant scrotum, and the destruction of the enlarged veins. By it the parts are fully exposed to view, and the artery and vas deferens certainly avoided. It cannot fail to produce a radical cure. It is safe, simple, and certain. There is no danger from phlebitis, the veins not being wounded but simply closed, and by a ligature which is entirely dissolved in a few days. The entire wound healing mostly by the first intention.

ART. 199.—On Spermatocoele.

By Dr. F. STENDENER.

(*Archiv für klinische Chirurgie*, Band x. Heft 1, 1869; *Gazette Hebdomadaire*, No. 15, 1869.)

The origin of cysts containing spermatozoa is variable, and at the present time all observed spermatocoeles may be ranged in three groups, the existence of which has been confirmed by anatomical researches. In the first place, spermatic cysts are developed at the level of the epididymis without the tunica vaginalis. To this group belong the majority of cases of spermatocoele. These cysts are sometimes multiple (Curling, Syme, Uhde). In very exceptional cases they may attain a considerable size. Curling has operated upon one containing thirty-two ounces of fluid, and Rothe has reported a case in which the cyst

contained two pints. In the second place, spermatic cysts may be developed over the epididymis within the tunica vaginalis. These cysts are very rare. They have been described by Gosselin, Lewin, Curling. In the third place, we have hydrocele, properly called, containing spermatozoa. Of this form of spermatocele we possess but two pathological and anatomical researches—viz., those by Paget and Curling—to establish its existence.

Dr. Stendener has had opportunities for observing on the living subject, and subsequently for making a post-mortem examination, a fourth form of spermatocele which could not be included within any of the preceding three groups. This fourth group contains cysts formed by the glandular canaliculi of the testicle itself.

The following were the characters observed during life: The right half of the scrotum was swollen, and presented a transparent elastic tumor, reaching as far as the inguinal ring; the testicle could be easily felt below the tumor; the tunica vaginalis did not contain fluid. Dr. Blasius diagnosed an encysted hydrocele of the spermatic cord, and spoke of the possible presence of spermatozoa. A puncture gave exit to 350 cubic centimetres of a fluid containing an enormous quantity of moving spermatozoa. Five months later the patient died from cancer of the liver, the cyst in the meantime had returned.

At the autopsy it was made out that the testicle was sharply separated from the tumor. The tunica vaginalis included a small quantity of serous fluid which did not contain any traces of spermatozoa. The cyst contained 135 cubic centimetres of a thick fluid of a soapy appearance, with a density of 1011, and presenting under the microscope a considerable quantity of spermatozoa. Chemical analysis demonstrated after filtration a large proportion of albumen and a small quantity of glycose.

The cyst was entirely separated from the vas deferens, which, with the vessels, was situated at the posterior part of the cyst. This covered the head of the epididymis in such a manner that this organ was found to be placed between the parietal layer of the tunica vaginalis and the wall of the cyst. Near the head of the epididymis and below the cyst was another small lenticular cyst furnished with cylindrical epithelium presenting vibratile cilia, and formed without doubt at the expense of the remains of Muller's body. The hydatid cyst of Morgagni was somewhat flattened, but readily discernible. The spermatic cyst could be easily separated from the epididymis and tunica vaginalis, but was adherent to the testicle over a portion three millimetres in length and fifteen in breadth, near the upper extremity of the rete testis. The cystic membrane was continuous at this part with the tunica albuginea. A median section across the testicle and the cyst showed that a great number of the canals of the testicle were united to the cyst, and apparently opened into its interior. A fine hair, however, could not be passed through the orifices of these canals.

In this case, then, one had to deal with a cyst formed by the retention of products of secretion in a part of the rete testis, due to obliteration of the communication between the canals of the rete testis and the excretory tubes. Virchow has already described the formation of cysts by obliteration of the seminiferous canals, and although the conditions of formation are not known, this obliteration may be admitted to explain the formation of cysts in the vesicle of Morgagni, those which are consecutive to the obliteration of the vasa deferentia and to obliteration of the canaliculi of the epididymis.

ART. 200.—*Recent Experience in Ovariectomy.*

By T. SPENCER WELLS, F.R.C.S., Surgeon to the Queen's Household.

(*Medical Times and Gazette*, November 28, 1868.)

Since last October Mr. Wells has completed the operation of ovariectomy in the Samaritan Hospital in thirty-six cases, besides one case in which he performed the operation successfully for the second time on the same patient. Of the thirty-six women, thirty-one recovered and five died. And it is a remarkable fact, Mr. Wells writes, that in *every case* in which the pedicle was long enough

to enable him to use the clamp the patient recovered. There were thirty of these cases—thirty clamp cases in one year without a single death. In two cases he used the canterly. One of the patients recovered, and one died. In four cases he tied the pedicle, and returned it into the cavity of the abdomen after cutting off the ends of the ligature. All these four patients died. Two of them must have died, he thinks, in whatever manner the pedicle had been treated. They were almost hopeless cases, and the operation was done as a forlorn hope. In one case the patient was sinking fast from septicæmia, a cyst filled with fetid fluid and poisonous gas having been washed out repeatedly, but ineffectually, with carbolic acid, and it was at last removed with only the very faintest hope of saving life. In the other case, extensive pelvic adhesions and disease of both ovaries had been pretty accurately made out, and had led to repeated tappings rather than ovariectomy. But at length, when tappings became of no avail, the cysts were removed, with some slight hope but with far greater apprehension. A clamp could not be used in either case. The pedicles were too short. The cautery might have been used; but the pedicles were of the kind where the cautery is often ineffectual in stopping bleeding—broad, thin, membranous attachments, with large vessels. In such cases the ligature succeeds well in stopping bleeding; but whether the ends are left hanging out through the opening in the abdominal wall, or are cut off short and returned with the pedicle, the results in Mr. Wells's hands have been almost equally unsatisfactory.

Mr. Wells states that he has often been asked here. What becomes of a ligature and of the tissues strangulated by the ligature when closed up in the peritoneal cavity? And he has from time to time given his reasons for believing that ligatures of fine pure silk are dissolved or disintegrated, and cannot be found after a few weeks. He has also shown that a pedicle secured by a silk ligature may be found some days afterwards either (1) surrounded by coils of adhering intestine, or (2) as the centre of a purulent cavity, or (3) apparently very little altered by the ligature, or else (4) absolutely dead or gangrenous. All these different conditions Mr. Wells has actually seen, accompanied by more or less evidence of peritonitis, and depending more, he believes, on the general health of the patient and the condition of her blood than upon any little difference in the material, or thickness of the ligature, or the mode of its application.

In speaking of the changes which foreign bodies themselves undergo when left in the peritoneal cavity, Mr. Wells says: Ligatures, either of silk or hemp, up to about the twenty-first day scarcely show any change, except some softening of the hemp. "Between the particular fibres which compose the ligature thread a number of young cells insinuate themselves, separating the threads from each other in some places in a remarkable manner, and evidently penetrating from neighboring parts. After a longer time the fibres are in this manner completely separated from each other, the knots loosened, the threads totally unravelled. Where a ligature had cut through, in several cases its track was marked by the remnants of single fibres."

Then as to the changes produced by the ligature in and about the parts where it is applied. The Breslau professors, Dr. Spiegelberg and Dr. Waldeyer, found the ligatures either "(1) closely encapsuled by newly formed cellular tissue; or (2) free in the peritoneal cavity, having slipped off from the tied parts; or (3) free, as if swimming in a small cystic cavity of the stump."

In one case, where a ligature had completely slipped off from the part which it had surrounded, and had been free in the peritoneal cavity, it had become firmly connected with a neighboring coil of intestine by means of young cells springing up from the serous membrane which had penetrated between the fibres of the thread, so that there was almost an organic union between the surface of the intestine and the knot of the ligature.

Where a ligature had to cut through a thick substance—as the body of the uterus or one of its horns—the track of the ligature could be distinctly seen on section, with help from a strong lens, as a fine gray line. It began as a slight indentation of the peritoneal coat corresponding to the place where the ligature first caught. As early as the fifth day this indentation had become so shallow as to be in no proportion to the deeply grooved ring round the tissues

powerfully constricted by the ligature. Under a higher magnifying power the delicate line is seen to be formed by a streak of new cells, which mark the track of the ligature; but no trace can be seen of mortified particles of tissue. "It appears, therefore, that a ligature divides tissues in a very gentle manner, as if the tissue elements become loosened and separated before it while new cells are formed, and the gap behind it closes, so that the divided surface is scarcely ever exposed, at least within the peritoneal cavity. The first occurrence after the application of a ligature is evidently the union of the two borders of the ring cut by the ligature. In this way the thread is soon shut off from communication with surrounding parts, and then lies completely shut up in a circular canal. We have seen this very clearly in two post-mortem examinations made three days after ovariectomy. There were already abundant groups of new tissue sprouting up from the neighborhood over the ligatures, which had cut deeply into the pedicle, and almost completely covering it. In the new granulation tissue numerous bloodvessels can be discovered very early, so that the transition to permanent tissue is very soon effected."

The authors conclude from their experiments that ligatures inclosed in the peritoneal cavity do not lead to any evidence of acute local peritonitis, and, so far as the tissues of the uterus and mesometrium are concerned, can hardly be regarded as foreign bodies. They nowhere induce processes of mortification in these tissues, but, on the contrary, are inclosed and encapsuled on every side by them. In dogs as soon as the eighth day.

We now come (Mr. Wells continues) to some very interesting observations, well worthy of careful considerations, upon the changes in the surface of the divided parts of the uterus. After a few days—from four to six—no free divided surface could be seen. Surrounding portions of the mesometrium, bladder, or coils of intestine rapidly adhered to it. In one case, after nine days, numerous bloodvessels were observed running between the coats of the bladder and the uterus. In another case, after twenty-one days, the spot from whence an ovary had been removed could not be detected, so perfectly smooth and free from any cicatrix was the posterior abdominal wall where the ovary had been. In another case, six days after operation, the cut end of the left horn of the uterus was found soldered between two coils of intestine. The mesometrium was drawn in between them and united with their coats and mesentery. The divided horn of the uterus itself was also partly adherent to the intestine.

The most complete and extensive adhesions of the uterus were always with its own mesometrium. This was always observed, even when other organs were also adherent. The cut surface of the uterus falls upon the neighboring mesometrium; new cells spring up from the latter and unite with the granulations from the uterine surface. Afterwards retraction of the new formed granulation tissue draws the stump of the uterus more and more within the folds of the mesometrium until it is completely surrounded. A very free vascular communication has been observed between their united surfaces. The authors never observed any divided surface either free or with shreds of gangrenous tissue about it.

Similar conditions were observed in the two ovariectomy cases just alluded to. The divided surfaces of both pedicles were on the third day perfectly fresh, without any gangrenous appearance. In the first case, where both ovaries were removed, both pedicles were free and directed upwards; in the second case the divided surface of the pedicle was in contact with the peritoneal covering of the psoas magnus, with which it was connected by new cells, and without any trace of gangrene.

Passing on to the consideration of the effects produced by the ligature on the part inclosed by it—the stump—the authors say that when a bloodvessel is tied the strangulated end of the vessel dies and is thrown off with the ligature. Hence the rule not to tie a vessel far from its cut end, but as near as it can be done with certainty to stop bleeding. So that when it was proposed to tie a pedicle of an ovarian tumor and leave ligature and stump in the peritoneal cavity, it was feared that there would be great danger from the death of the strangulated stump. At the same time, if the stump were left very short

by cutting away the tumor close to the ligature, it was feared that the ligature might slip off, and internal bleeding take place. The authors consider that their experiments prove these fears to be exaggerated—at least they establish the fact that in dogs there is no gangrenous change in the stump, nor any trace of mortification either on the divided surfaces or on the parts behind the ligature. In the case where the divided end of the uterus adhered between two coils of intestine, the stump had contracted to a nodule hardly as large as a pea, consisting of a part of the uterine wall with its mucous membrane everted, and containing all its structural elements, including the utricular glands, completely unaltered. The openings of these glands had thus been brought free in the peritoneal cavity.

Larger stumps were enveloped in the folds of the mesometrium. Their canals were almost always pervious, and in some had become dilated into a sort of cyst with muco-purulent contents. Sometimes the ligature knots lay within these cysts, the texture of the walls remaining almost unaltered, and the mucus and pus-corpuscles showing very little retrograde metamorphosis. In most cases there remained a narrow communicating opening between the cavity in the stump and the rest of the uterus. In two cases the cavity of the stump was obliterated and filled with young granulation tissue, in which no epithelium of the uterine cavity could be found, although there were remnants of utricular glands. All this proves that the textural alterations take place by simple retrograde metamorphosis of cells which become permanently organized tissue, but without the occurrence of any violent inflammatory or gangrenous changes.

The authors have not much to say about the changes in the surfaces cauterized. Only three animals were subjected to experiment, and these were killed on the sixth, fourteenth, and twenty-sixth days after the application of the cautery. On the sixth day the cauterized surface of the central part of the uterus appeared quite fresh, beset with numerous small brown-black particles of animal charcoal, not softened, but firm and hard. At a depth of two to three millimetres, the uterine tissue was colored reddish, as if from imbibition of the coloring matter of blood. The uterine cavity was shut off from the peritoneal cavity, but rather by the firm agglutination of the tissues of the cauterized surface than by granulations, none of which could yet be seen. The microscope showed the tissue of the cauterized part to be unaltered, the vessels dilated, and many of them filled with clot. The coloring appeared to be due to blood-corpuscles and diffused coloring matter of the blood. All these changes, however, were circumscribed, and might easily have gone on to complete restoration. Much more extensive alterations were found on the two cauterized surfaces of the uterine horns. These were so completely surrounded by folds of the mesometrium that they could not be seen until these folds had been dissected off. At only one spot of the left horn near the cauterized surface, an opening was found as large as a pin's head, which opened into the dilated cavity of the horn. About two centimetres distant from the cauterized surface, the mucous membrane and the muscular tissue of the uterus were softened and gangrenous. Shreds of mucous membrane lay in the cavity, the walls of which were formed merely by serous membrane and the adherent mesometrium. The vessels, even to the smallest, were completely blocked up by clot. The gangrenous process about the cauterized parts appeared to be due to the extension of clot in the vessels; but all was encapsuled by the mesometrium. No pus was found in the peritoneal cavity, not even near the small opening which communicated with the uterine cavity. A successful result might therefore have been expected. It was obtained in the two following cases.

After fourteen days the cauterized surfaces of the central extremity of the uterus, as well as those of both horns, were all completely encapsuled by mesometrial folds. The central extremity of the uterus was firmly united to the posterior wall of the bladder by perfectly organized connective tissue. The cauterized surface of the right horn was firmly united to a coil of small intestine.

On the twenty-second day repair was found to be most complete. The cauterized surface of the body of the uterus was bound to the posterior wall of the bladder by a fibrous band. The cauterized surface of the mesometrium was everywhere smooth; nothing could be seen to show that a piece of it had been

separated by the cautery from the horns of the uterus. The cauterized spots on the uterus were smoothly encapsuled, and the only traces of the cautery were minute remnants of animal charcoal. These fragments of charcoal lay in a firm fibrillated connective tissue which closed the uterine cavity. The epithelium of the uterus and the other elements of the uterine wall were perfectly preserved.

Mr. Wells states that he is indebted to Dr. Maslowsky, of St. Petersburg, for two papers which he kindly sent him, one from the ninth volume of *Langenbeck's Archiv*, and the other from the *Berliner klinische Wochenschrift*, which contain observations corroborative of those by Spiegelberg and Waldeyer. In one successful case Dr. Maslowsky removed both ovaries, treating the right pedicle by the cautery and the left by ligature, returning both into the peritoneal cavity. And he made twelve experiments on rabbits, dogs, and cats, removing the horns of the uterus and the omentum, sometimes by the galvanic cautery and sometimes by red-hot irons, in order to study the process of capsulation of the eschar after its inclosure within the peritoneal cavity, and the share which the white blood-corpuscles have in this process. As these corpuscles take up vermilion from the blood, Dr. Maslowsky injected vermilion into the jugular vein at different periods after his experiments, in order to trace the corpuscles in any product of inflammation.

Microscopic examinations of the animals at different periods, from fifteen hours to seventy days after operation, proved that the eschar on the uterine horns and on the omentum is first covered by effused fibrine, and is afterwards united by membrane with surrounding organs. "The fibrinous exudation contains many round cells charged with vermilion, and some nucleoli free from vermilion. It soon loses its fine fibrillar structure, and is changed into a finely granular mass. The round cells with vermilion assume an oval form, and then spindle-shaped cells are also seen without vermilion. Some cells contain black nucleoli not composed of vermilion; afterwards these may be seen between the fibres. As the capsulation becomes more complete, the oval cells which contain vermilion become long and then spindle-shaped. And Mr. Wells has sometimes observed that the ends of two spindle-shaped cells coalesce, and at once form a fibre. In the new-formed membrane, capillaries are seen as soon as the fourth or fifth day, and on the tenth or twelfth the vessels may be easily injected. Mr. Wells has also seen in the membrane newly formed elastic fibres and scaly epithelium, both free from vermilion. The false membranes have a similar structure. It is therefore an undeniable fact that the white blood-corpuscles participate in the formation of the new membrane which covers the eschar and unites it with surrounding organs."

The eschar made by the galvanic cautery consists of animal charcoal and blood pigment. The particles of animal charcoal are partly lying in the eschar, and are partly inclosed in surrounding connective tissue. When red-hot iron is used, the eschar also contains particles of oxide of iron, some of which are also found inclosed by the elements of connective tissue. It is proved that the black specks are really iron by the ordinary chemical reactions. The mucous membrane of the uterus near the cauterized part was suppurating, and the pus-corpuscles contained vermilion.

Dr. Maslowsky also made a number of observations on the mesentery and mesometrium of frogs and rabbits, in order to ascertain the precise changes which the vessels themselves, and the blood circulating in them, undergo after the application of the cautery. From twelve to twenty-four hours before examination, vermilion was injected into the jugular vein. The frogs were immobilized by woorara, the rabbits narcotized by opium. The results of the microscopical observations are as follows:—

"a. The end of closed arteries is contracted immediately at the cauterized part, but at some distance from it the artery is dilated. The canal of the veins is affected exactly in the reverse manner.

"b. The blood in the vessels contains black particles from the heated iron, and separates itself distinctly into a layer of white blood-corpuscles, which are near the cauterized spot, and a layer of red blood-corpuscles, which are further away.

"c. In the closed arteries after two days the movement of the column of

blood is maintained. A part of the blood, with the black particles of the cauterized artery mixed in it, reaches back towards the trunk of the vessel. The movement of the blood in cauterized veins is only kept up for a very short time. There is complete stagnation, not only in the cauterized vein itself, but it extends further up to the junction with larger veins.

"d. The black particles are taken up by the white blood-corpuscles. This can be seen most distinctly in the vessels where stagnation of the blood is not complete.

"e. The migration of white blood-corpuscles, partly containing vermilion and partly black particles, begins twenty, thirty, or sixty minutes after cauterization. They are first seen in the veins into which the cauterized vein opens; afterwards in the veins near the cauterized part. Very few white corpuscles migrate from the arteries. In frogs, as the mesentery is very broad and transparent, this migration can be observed for three days; in rabbits only for six or eight hours.

"Similar changes in the vessels and migration of white blood-corpuscles I have also observed after ligature of mesenteric vessels, and after burning away part of the tongue in the frog. When entire portions of mesentery are burnt away, the same alterations occur, but to a much greater distance.

"A hot iron shaped like a bird's bill, so as to enter for some distance into a vessel, was used in three cases, and I observed a migration of white blood-corpuscles charged with black particles, which chemical reaction proved to consist of oxide of iron.

"It is therefore certain that particles of iron from the iron cautery may be transmitted with the white blood-corpuscles into different tissues."

These recent observations are, Mr. Wells thinks, of sufficient importance to justify him in having brought them before the profession of such length. But he cannot feel encouraged by them, as the authors have been encouraged to look upon either the cautery or the ligature, or any *intra*-peritoneal method of dealing with the pedicle of an ovarian tumor, as equal, far less as superior, to the clamp or to any other *extra*-peritoneal method.

ART. 201.—*A Third Series of 100 Cases of Ovariectomy, with Remarks on Tapping Ovarian Cysts.*¹

By T. SPENCER WELLS, F.R.C.S., Surgeon-in-Ordinary to her Majesty's Household, and Surgeon to the Samaritan Hospital.

(*The Lancet*, May 15.)

The author has arranged in a table all the cases in which he has completed the operation of ovariectomy, from the 200th case included in previous papers to the 300th. In other tables he gives particulars of all his incomplete and exploratory operations. He finds that the mortality lessens as experience increases. Of the first 100 cases 34 died, and 66 recovered. Of the second 100, 28 died, and 72 recovered. But of this third series of 101 cases, only 23 died, and 77 recovered.

The author has endeavored to ascertain what influence tapping ovarian cysts may have upon the mortality of subsequent ovariectomy, and he has arranged in a table all his cases where tapping had never been done, and those in which it had been done from once to sixteen times. The general mortality of the 300 cases were 28.33 per cent. Nearly one-half of the patients, or 135, had never been tapped. In them the mortality was 27.40 per cent.—not one per cent. less than the average mortality. Rather more than one-fourth of the patients, or 78, had been tapped once. In them the mortality was 25.64 per cent. There were 19 who had been tapped three times, and the mortality was 26.32 per cent. Of the 36 who were tapped twice the mortality was exactly the same as that of the group of cases tapped from four to sixteen times—namely, 33.33 per cent.

¹ Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, April 27.

The author is led by these facts, and by other considerations discussed in the paper, to the following conclusions:—

1. That one or manyappings do not considerably increase the mortality of ovariectomy.

2. That tapping may often be a useful prelude to ovariectomy, either by giving time for the general health to improve, or by lessening shock when the fluid is removed a few days or hours before removing the more solid part of an ovarian tumor; and

3. That when the syphon-trocar is used in such a manner as to prevent escape of ovarian fluid into the peritoneal cavity, and of entrance of air into the cyst, the danger of tapping is very small.

Dr. West agreed with Mr. Wells as to tapping being of service, especially as a preliminary operation, which might satisfy the surgeon, the patient, and her friends. In most cases the patient cannot be said to die of the tapping. We were apt to be dazzled by the success of ovariectomy. He would not speak so were it not necessary for him to, as it were, recant his former opinions. He could therefore with greater grace advocate the use of the minor operation. He would ask if any one now used iodine after tapping?

Mr. Spencer Wells, in reply to Dr. West, said that he had lately conversed with M. Nélaton and M. Boinet, who had both large experience in the treatment of ovarian cysts by iodine injections, and he found that they had both arrived at the same conclusion as his own experience of seven cases would lead to. Of his own seven cases, only one patient was alive who had not since undergone ovariectomy. This one was still in tolerable comfort nearly ten years after the injection; but a rather large cyst could still be felt. If a cyst was unilocular, with thin walls and limpid contents, then, after tapping and injecting iodine, a radical cure occasionally followed. But it was very doubtful whether iodine had much or anything to do with the cure, because tapping alone, without the use of iodine, in this form of cyst was also occasionally completely successful. No more fluid was secreted, the cyst collapsed, its walls probably coalesced, and after a time no trace of it could be detected by the most careful examination. When the contents of a cyst are viscid, iodine is quite useless. In such cysts, and in multilocular cysts generally, injections of iodine should be restricted to cases where for some reason ovariectomy cannot be performed, but where a cure may be hoped for after suppurative and drainage. Here washing out the cavity, once or twice a day, or oftener, with plenty of iodine in solution, becomes very useful, by deodorizing the offensive secretions, and probably by preventing absorption of putrid fluid and blood-poisoning.

ART. 202.—*Cases of Ovariectomy.*

By THOMAS KEITH, F.R.C.S.E.

(*Edinburgh Medical Journal*, October.)

The three following cases are placed on record by Mr. Keith:—

"CASE LXI.—*Solid Malignant Tumor of Ovary with Ascites. Ovariectomy. Recovery.*—Mrs. B., forty-three years of age, expected her fourth confinement towards the end of August, 1867. The catamenia had been regular up to the preceding November, and with the exception of severe attacks of pain in the right side, and more than usual vomiting, there was nothing to excite suspicion that there was anything different from her former pregnancies. Getting alarmed after she had passed her expected term nearly two months, and finding herself becoming rapidly thin and losing strength, she consulted Dr. Espie, of Falkirk, who detected an ovarian tumor, and sent her to Dr. Duncan, with whom I saw her.

"She was a tall, gaunt, pallid, emaciated woman, of unhealthy aspect. The abdomen was filled by a hard, fairly movable tumor surrounded by ascitic fluid. The upper margin of the tumor was rather ill defined, and there was a groove or depression in it, over which there was generally a coarse crepitus or gurgling. The uterus was central and movable, but the slightest movement of the tumor—even the very laying of the fingers on it—was communicated to the cervix. Indeed, from physical

examination alone, it could not have been diagnosed from a fibroid outgrowth from the uterus. No relief could be obtained by drawing off the ascitic fluid, and the case was one for ovariectomy or nothing. Ovariectomy was performed on the 2d of November. Dr. Epsie was present from Falkirk. At first the anæsthesia was very quiet, but the supply of ether became exhausted—for I did not expect a long operation—and chloroform alone was given during the last hour, when vomiting became very severe. The incision extended from three inches above the umbilicus. A dark vascular tumor was exposed, quite unlike anything I had yet met with. After separating some firm anterior adhesion, and allowing the ascitic fluid to escape, it was found, on attempting to turn out the tumor entire, that the transverse colon lay imbedded in it. On trying to separate this, the upper part of the tumor broke away, and as the mass was then turned out, some extensive posterior adhesions in the pelvis and right iliac fossa gave way. The pedicle was secured by a clamp. The adherent colon, with its omentum and mesentery, was then freed by the fingers and scissors from the portion of tumor which was left. Many vessels were twisted, and besides, at least upwards of thirty bleeding points were secured by ligatures, the ends being cut off short. Some bleeding points in the intestine could not be secured without including portions of the muscular coat in the ligature. The bleeding was unusually free—especially in the pelvis below the bifurcation of the aorta, where a large piece of pelvic peritoneum had come away on the tumor; here it was necessary to tie large pieces of oozing cellular tissue, some of them as large as the point of the finger. There was much chronic peritonitis, and an unusual amount of sponging and handling of the intestines was necessary. This was unavoidable, from the oozing being again and again set up during the chloroform vomiting. The wound was finally closed by twelve deep silk sutures; and fearing lest the vomiting might set up hemorrhage when the patient was put to bed—as happened in one of my former cases—a glass tube was placed above the clamp, down behind the uterus, to give exit to any oozing. The left ovary was natural. The operation lasted upwards of two hours, and when the patient was put to bed she was pulseless, and looked as if she would die.

"The tumor was sent to Dr. Sanders, who pronounced it malignant both to the naked eye and on microscopic examination.

"The recovery in this case was for long doubtful. She was very feeble for many days, with a distressing feeling of giddiness and faintness. Vomiting was severe for the first thirty-six hours, and it continued at intervals for four days, when flatus passed downwards. The glass tube was removed on the seventh day, the opening closing at once on its removal. At least a pint and a half of dark red serum escaped through it. It was kept covered with lint soaked in carbolic oil, a very fine drainage tube being placed inside forming a syphon through which the serum trickled into a little dish at the patient's side.

"On the seventh day she began to suffer from colicky pains and great distension. This increased, in spite of everything, and towards the end of the second week, the meteorism was like to prove fatal. Faradization and long-continued doses of strychnine were tried in vain. Relief was only obtained by distending the colon by enemata of hot water. These generally brought away much flatus, and had to be repeated often every few hours. On the seventeenth day, a boggy swelling, which had formed behind the uterus, was punctured by a trocar, but it only contained fluid blood. During the third week the distension gradually subsided, and on the twenty-first day she was up for the first time. At the end of four weeks all swelling in Douglas's space had disappeared. The pulse never at any time rose above 120. The temperature was not taken, for the least unnecessary movement for a long time brought on sickness. The wound healed without discharging a drop of matter, and, notwithstanding the great distension, a more perfect linear cicatrix was never seen. About the time when she first got out of bed, it was observed that two deep sutures had escaped notice, and they were allowed to remain for experiment. Six weeks afterwards I saw them harmless and quite dry. When seen six months after operation, this patient had such a look of health that Dr. Duncan, myself, and the nurse who attended her, mistook her for a robust sister who had been with her during her illness. Her after history will be carefully watched. That the cancerous affection will return somewhere, I fear there can be little doubt.

"*CASE LXII.—Multilocular Ovarian Tumor. Ovariectomy. Recovery.*—On the 11th of July, 1867, I saw, with Dr. Carmichael, a married lady, fifty-five years of age, from the west of Ireland. At the age of forty-two, the catamenia suddenly ceased, and since then her health had been indifferent, chiefly from attacks of chronic

diarrhoea. The tumor was of slow growth, and had been felt above the pubes for at least two years. All along she had had much pain in the pelvis; latterly this had been very severe, and locomotion was ill borne. Her general condition appeared good: she was fat, and had not the look of one suffering from ovarian disease.

"The tumor reached to a little above the umbilicus. The upper part fluctuated; the lower two-thirds were irregular and unusually hard. It was quite immovable. The cervix uteri could just be felt far back at the promontory of the sacrum. The uterus itself seemed to be drawn up behind the tumor, and the sound passes nearly five inches. The pelvis, between the uterus and pubes, was occupied by a hard irregular tumor, quite fixed.

"After several examinations, the impression left upon me was, that the tumor had more the characters of a fibro-cystic tumor of the uterus than of an ovarian tumor. As she quite dreaded the return journey to Ireland, and as there were no urgent symptoms, and the tumor not large, it was arranged that she should remain for some months in the neighborhood of town. The tumor rapidly increased, and she suffered so much from pain and distension that tapping became necessary in September. Much relief followed. The fluid, of which there was nearly 20 lbs., was a thin serum, depositing on standing about 15 per cent. of blood clot. I need hardly say that the nature of the fluid confirmed the previous impressions of the case. The sound could now be passed into the uterus little more than three inches, and the uterus felt as if it could be isolated from the solid part of the tumor in the pelvis, where its relations were otherwise the same as before.

"The fluid quickly accumulated, and the patient acquired the thin worn look of ovarian disease. It was agreed to make an incision and then be guided by circumstances. This was done on the 21st of November. Dr. MacLaren, of Lasswade, Dr. Carmichael, of Burntisland, and several medical friends of the patient were present. The peritoneum was opened at the umbilicus, and the white glistening surface of an ovarian tumor exposed. The large cyst was emptied, opened to admit the hand, the semi-solid portion broken down through it, and then the tumor was turned out, after separating it from firm parietal adhesions above the umbilicus, firm adhesions in the pelvis behind the pubes, and from numerous bands in the pelvis. The peritoneal covering of the bladder was slightly injured. Seven or eight vessels were secured by ligature, and in doing this a small reflector was of much service. The pedicle was short, but from the previous elevation of the uterus it was fastened outside without any strain. So completely was the uterus drawn up behind the tumor that I came upon the upper margin of the pedicle in the epigastrium, and thought at first that it was a piece of adherent omentum or intestine.

"There were no unfavorable symptoms. There was, however, more suppuration from the wound than I have seen for a very long time. It seemed to be caused by the strangulation of a ring of cellular tissue from one of the sutures having been tied too tightly. I had a letter from her lately saying that she was quite well.

"*CASE LXIII.—Semi-solid Ovarian Tumor. Ovariectomy. Recovery.*—Mrs. B., aged thirty-two, married nine years and childless, was sent to me in the summer of 1867, by Dr. Greig, of Dundee, on account of a semi-solid tumor of slow growth, extending to a little above the umbilicus. The girth was thirty-seven inches. The uterus was high, drawn to the right, and it was not movable. A large piece of the tumor was felt behind it in the pelvis. This also felt fixed. Till she had seen Dr. Greig she was supposed to be suffering from a fibrous tumor, chiefly because there was a bruit in it. This disappeared when she was moved over to her side. She was a delicate-looking woman, and had never been robust. Many years ago she had a large pelvic abscess, which was opened above the pubes. Hitherto she had not suffered much inconvenience from the tumor. I rather, however, recommended early operation as long as her health was fairly good.

"She returned to Dundee very much the worse for her journey to town. She had now frequent attacks of pain, her health began to give way, while the tumor rapidly enlarged, and she came back on the 24th of October, very anxious to have it removed. It now filled the abdomen, and was painful; she was troubled with constant sickness, and could get rest in no position at night. After waiting ten days, she looked so wretched and ill that ovariectomy was performed on the 4th of November, though the period was expected on the following day. Dr. Engelman, of Kreuznach, was amongst the visitors. There was a good deal of parietal adhesion; the omentum was attached behind the pubes, and was cut through to reach the tumor, which was then broken up in the usual way, and removed through an opening scarcely extending to the umbilicus. The cyst came close to the uterus. Double ligatures were first applied, em-

bracing a piece of the cyst, and then a clamp: but there was so much strain upon the uterus that the fundus was brought against the wall. The left ovary was enlarged, containing a thin cyst about the size of a pigeon's egg. It was low in the pelvis, and was with difficulty brought into view. The cyst was seized with two pairs of forceps, punctured, and then torn quite across. There was a good deal of red serum in the abdomen, and part of the small intestine was red and granular. The weight of the broken-down cysts was 16 lbs.

"Anæsthesia was produced by a mixture of two parts of ether and one of chloroform. She sickened severely during the operation, but vomited only a single mouthful of frothy mucus. There was no after vomiting. After doing fairly well for some days, she became exceedingly nervous and depressed. There was no rise of pulse, and the temperature, which had been normal, fell to 96°.4, and continued so for nearly twenty-four hours. Convalescence was slower than usual, and she had several boils near the wound. She returned to Dundee in the fifth week after operation, and has been strong and well since."

(c) CONCERNING THE UPPER EXTREMITY.

ART. 203.—*Reunion of a Phalanx which had remained detached from the Finger for three-quarters of an hour.*

By Dr. GOSCHLER.

(*Wiener Medizinische Wochenschrift*, Nos. 65, 66, 67, 1868; *Gazette Hebdomadaire*, No. 42, 1868.)

After the collected reports of Prédagnal, Sommé, Beauchêne, Balfour, and Braux, one can no longer doubt the reality of reunion of the phalanges, and even of fingers, after separation for a longer or shorter time. Facts of this kind, however, are rare, and the surgeon often fails in his attempts to bring about reunion. The following case deserves notice, as it is an encouragement to aim at reunion in like cases.

A man, sixty years of age, whilst cutting wood, wounded a part of his ring finger, which afterwards remained for three-quarters of an hour in cold water at eleven degrees Reaumur. The separated portion of the finger represented nearly the whole of the last phalanx. The section had taken place about half a line from the joint, on the palmar surface, and at the level of the ungual canula. The flap contained about five-sixths of the nail, nearly the whole of the third phalanx, and the intermediate soft parts; it was about two centimetres and a half in length, and its palmar surface one centimetre at its dorsal surface, and two centimetres and a quarter in breadth. This portion of the finger was pale, the cut surface blanched, and the bone regularly cut through.

Dr. Goschler attempted to gain reunion by first intention, the flap was replaced with care, and kept in its place by strapping; the dressing was completed by salve and a bandage. On the following day, April 30th, the dressing was tinted with blood. There was no pain, redness, nor bad smell.

On the 1st of May the patient was restless, and the finger was painful; the circumference of the wound seemed to be in perfect adaptation along a fifth of its extent; a reddish deposit of blood was interposed between the margins of the flaps in the rest of the wound. During the following three days no apparent change took place; the extremity of the finger was livid and cold, but adherent and evidently sensitive.

On the 6th of May a part of the epidermis was detached; the exposed dermis appeared to be normal.

On the 10th the finger became slightly cedematous, but not at all painful; the rest of the epidermis, together with the nail, was removed; the dermis was red and bled readily; a small slough about two lines in width and one line in thickness was removed from the palmar surface; reunion seemed to be perfect along the whole extent of the wound.

On the following days the slough extended a little, and then became covered by granulations.

On the 25th of May a small spicula about half a line in length, a quarter of

a line in width, and a sixth of a line in thickness, was removed from a small wound on the palmar surface of finger.

On May the 30th the cure seemed complete, the nail had commenced to grow, and the functions of the finger were perfect.

Cure was thus perfected in one month, and, in spite of the formation of small granulations, and the discharge of a spicula of bone, there was no suppuration nor the appearance of a drop of pus; the granulations produced barely a serous exudation. This circumstance is attributed by Goschler to the employment of close dressing—*pansement par occlusion*—which being maintained with care, prevented any action of the air. In addition, reunion by agglutination already existed thirty-six hours after the commencement of the treatment, and on the ninth day there was decided reunion between the soft parts, but not between the osseous fragments. A point of special interest in this case is the re-establishment of sensibility on the third day.

ART. 204.—On the Treatment of Compound Luxation of the first Metatarsal Bone.

By MM. BLANQUINQUE and LASSALAS.

(*Gazette Hebdomadaire*, No. 15.)

The following conclusions have been derived from some elaborate discussions on compound luxation of the head of the metatarsal bone. In this injury the surgeon ought—

1. To practise reduction, which can always be done by enlarging the wound.
2. To extirpate the whole of the bone when, in addition to a luxation of the anterior joint, there is complete luxation upon the cuneiform bone, with laceration of the muscles and ligaments, the natural supporters of the nutritive vessels.
3. In cases of reduction, to make a preventive incision as recommended by M. Langier.

ART. 205.—On Compound Dislocation of the Elbow-Joint.

By THEOPHILUS MACK, M.D., St. Catherine's, Ontario.

(*Dominion Medical Journal*, March.)

In all cases of compound dislocation of the elbow-joint the two following rules, the author writes, should be considered absolute:—

1. If injury to the nerves or artery has been done, amputate as soon as the pulse will warrant the operation.
2. In cases where amputation appears unnecessary, let reduction be effected after resection, never without.

ART. 206.—On the Checking of the Movements of Supination and Pronation after Cure of Fractures of the Forearm.

By Prof. R. VOLKMANN.

(*Neue Beiträge zur Pathologie und Therapie der Krankheiten der Bewegungsorgane*, Berlin, 1868; *Schmidt's Jahrbücher*, No. 10, 1868.)

Professor Volkmann holds that the hitherto received explanation concerning the loss of rotation movement after fractures of the forearm, namely, dislocation of the fractured portions into the interosseous space, either with fusion of the four fragments in a common mass of callus or with luxuriance of callus, which narrows the interosseous space, is insufficient, because lateral synostoses between the radius and ulna, even after complicated fractures and gunshot wounds, have been very rarely observed, and luxuriance of callus, since it is an occurrence almost without exception for the arm to be fixed on pronation in cases where the movements of rotation have been completely or partially lost, would be

more likely to induce a hindrance to pronation than one to supination. He assents to the assumption of Dr. Benno Schmidt, that peripheral dislocation of the fractured portions, which may be easily overlooked in the living subject, presents a decided obstruction to movements of supination, and adds to Schmidt's experience the results of other researches which indicate a further cause for the checking of these movements.

If in a case of fracture of the forearm near the union of the middle and upper thirds the limb be pronated, it may then be observed, when attention is paid to the radius only, the fragments of which are movable, that these fragments, always in proportion to the extent of pronation, form a prominent angle either on the volar or even on the ulnar side of the limb, the first form of dislocation being, as is well known, a frequent occurrence in cases of isolated fracture of the radius. Should the fracture of the radius be consolidated in this angular position with the forearm maintained in pronation, it would necessarily happen that this bone, when the forearm comes to be supinated, would be carried from the position in which it crosses the ulna to one in which it is parallel to it, and that the apex of the angle formed by the dislocated fragments would be twisted over to the radial side of the arm; but the interosseous ligament will only allow of as much supination as its width permits; the greater the angulation, so much the sooner will the stretched ligament act as a hindrance. Volkman is able to show the correctness of this opinion by two practical examples.

An old fracture of the radius was found on examination of a dead body: the left forearm was somewhat deformed in its upper part, and was in a position of complete pronation, and could be rotated outwards only to a slight degree. The seat of fracture was found about three inches below the capitulum, both fragments were united end to end, but were much dislocated and formed an angle of 166° , the apex of which was turned towards the ulna; there was no peripheral dislocation. Even after removal of all the muscles and soft parts, with the exception of the ligaments about the joints and the interosseous ligament, the radius could not be supinated more than 30° , whence it was perceived that the extended interosseous ligament, the width of which at the seat of fracture was scarcely twelve millimetres, prevented the backward rotation. After the interosseous ligament had been separated along its whole length from the radius, complete supination could be effected, the width of the interosseous space after the backward rotation of the angle of fracture previously directed inwards, was thirty-six millimetres, so that the interosseous ligament, in order to allow supination, ought to have been thrice as wide. In this case the dislocation of the fractured parts, in consequence of its inaccessibility on palpation under the thick muscular layers, could during life have been easily overlooked; by pressure with supination it might have been readily removed. According to post-mortem experiences, considerable displacement with an isolated fracture of the radius is possible only when the interosseous ligament is torn to a certain extent from the upper fragment.

An example in a living subject was observed by Volkmann in a man whose radius had been fractured through direct violence about one inch above its middle. A pasteboard splint was applied to the forearm, half pronated, and bent at right angles to the upper arm; the fracture was consolidated in a few weeks. Volkmann was consulted, at the end of three months, as the movements of the hands had not been perfectly restored. The state of nutrition of the arm seemed to be quite normal; all the movements could be easily performed, with the exception of that of supination, which was incomplete and could not be carried to its normal extent by about 50° . A firm but still somewhat elastic resistance could be felt, and the patient experienced a painful sense of stretching at the seat of the recent fracture, this however was completely firm, there was no pain on pressure, nor could any callous protrusion be made out; both fragments of the radius, however, were united at an angle which projected at the volar aspect of the forearm, and was determined after repeated measuring to be about 165° .

Volkman concurs in Malgagni's advice, that a fractured forearm is better treated in a position of almost complete supination, or at least that it should be so placed that the thumb when bandaged shall not look directly upwards,

but be turned more towards a position of supination, so that the patient can look into the hollow of the hand. In cases where the movement of supination has been quite lost after cure of the fracture with the arm in the prone position, Volkmann holds that it is justifiable, with displacement of the axis of the radius, to saw through this bone at the seat of the recent fracture, and to carry the arm into a position of complete supination, afterwards maintaining it thus until the fragments are reunited. Even in cases where the fractured ends of the radius are united with much peripheral displacement, osteotomy is the best means for bringing about re-establishment of movement.

ART. 207.—On Fractures of the Olecranon without Separation of the Fragments and without upward Displacement of the Superior Fragment.

By Prof. BARDINET.

(*Bulletin de la Société de Médecine de la Haute-Vienne*, 1868; *Gazette Hebdomadaire*, No. 7, 1869.)

Professor Bardinet has been led to believe, from clinical experience and from anatomical consideration, that in cases of fractured olecranon separation of the fragments is rare, and in instances where it does occur it is produced by flexion of the forearm, and can be nearly always removed by means of extension. A case was reported by Roux of fracture of the olecranon, in which the lesion could not be recognized for several days. Two cases are reported by M. Bardinet of flexion producing a considerable separation of the fragments after fracture of the olecranon, which was not to any extent due to an upward displacement of the superior fragment. The following are given as the chief bonds of union between the two fragments: The aponeurotic expansion of the triceps, which covers the posterior surface of the apophysis with a layer of fibro-periosteal tissue; the band of Sir Astley Cooper, which forms a tense cord between the two extremities of the arc formed by the hollow of the olecranon; the fascial origin of the anterior cubital muscle, the fibres of which are very favorably disposed for retaining the superior fragment in opposition to the contraction of the triceps; the superior fibres of the anconeus act especially upon the irregular movements of the outer side of the fragment; and finally, but to a slight extent, the articular capsule. The most important obstacle to the upward displacement of the superior fragment is the olecranal portion of the internal lateral ligament, which is inserted at the lower part of the epitrochlea, and radiates from thence to the internal border of the olecranon. When the forearm is flexed this ligamentous band is vertical, and when the forearm is extended it describes a semi-circle backwards, and takes an oblique direction from below upwards, and from before backwards; it is then very favorably disposed for retaining the olecranon in its natural position.

The following were the results of experiments made by Professor Bardinet on the dead body: If the olecranon be fractured at its base, without there being any laceration of the surrounding fibrous tissues, the fragments will remain in close contact to one another, so that the fracture may be readily overlooked.

If the fracture has been complicated with a partial laceration of the fibrous expansion of the triceps muscle, the fragments will be separated from each other to the extent of one centimetre, or of one and a half. The extent of separation will not be increased during flexion of the arm.

If the fibrous extension of the triceps be completely torn through, whilst Cooper's ligament remains intact, the fragments will separate during flexion and form a triangular interspace, the apex of which will be directed towards the centre of the joint, and the base towards the external integument. The finger can be readily pressed down between the fragments.

If both the fibrous expansion of the triceps muscle and Cooper's ligament be torn through, the superior fragments will be retained during extension of the arm in its normal position but with flexion will undergo a considerable and gradually increasing separation from the shaft of the bone. The interspace will not

be of a triangular form, and will permit the fingers to be pressed deeply down without any ligamentous obstruction.

In consequence of these facts, Professor Bardinet, treats fracture of the olecranon by keeping the arm in the extended position. Ankylosis, he thinks, is not so likely to follow, as has been supposed. He objects to Desault's plan of placing the upper limb in an intermediate position between extension and semi-flexion, as this is likely to result in an irregular or incomplete union. Two cases are reported by M. Bardinet. In the first the splints were removed on the thirty-fifth day, and in the second on the thirtieth day. In both cases there was perfect union, and the stiffness of the joints was gradually removed by passive movements.

ART. 208.—*On Excision of the Elbow.*

By GEORGE BUCHANAN, M.D.

(*Glasgow Medical Journal*, November, 1868.)

Excision of the elbow is an operation of such established reputation, and its results so wonderful in regard to the use of the joint, that the interest of the surgeon is now confined to the cases suitable, the mode of operating, and the after-treatment. The eight cases reported by Dr. James Buchanan in the November number of the *Glasgow Medical Journal*, all operated on within a year, contain examples of almost every condition for which it may be undertaken, except primary excision for injury. With regard to the mode of operating, the single straight incision, in every instance except one, sufficed to expose the parts to be excised. As to the after-treatment, Dr. Buchanan has entirely discarded the use of any splint or apparatus. In some instances the limb was laid partially bent, on a pillow without any dressing whatever. In others, a water dressing and bandage were applied. In a third set, carbolic acid and oil, and over that antiseptic putty, were used. In all, the progress to cure was uninterrupted, except by the formation of small abscesses, the evacuation of which was followed by rapid progress. Nothing in the mode of after-treatment seemed to make any difference in the occurrence of these secondary abscesses; and Dr. Buchanan is inclined to believe that—considering the comfort of the patient, the rapidity of the cure, and the after result—the best treatment is by position, rest, removal of any discharge which may trickle away, and abstaining from any dressing whatever.

ART. 209.—*Of Excision of the Elbow-Joint for Injury.*

By C. F. MAUNDER, Surgeon to the London Hospital.

(*The Lancet*, January 2.)

It has fallen to Mr. Maunder's lot to perform primary excision of the elbow-joint in seven instances; and most of his colleagues have also performed this operation more than once. At the London Hospital amputation of the arm for compound comminuted fracture opening the elbow-joint is rarely resorted to, and then only in cases in which the soft parts as well as the bones are damaged extensively and beyond recovery. In a comparatively healthy subject, Mr. Maunder says he should remove large fragments both of the humerus and of the bones of the forearm, rather than submit a patient to the terrible alternative of amputation.

Of the seven cases referred to, two died: of these, in one instance the injury to the elbow was associated with a compound fracture of the skull; and in the second case—the patient being of a most desponding disposition—death resulted from pyæmia. The remaining five cases recovered with useful limbs; flexion and extension, supination and pronation, being secured to all in varying degrees.

ART. 210.—On a New Operation for Cancer of the Breast.

By RICHARD SWEETING, M.D., M.R.C.S.E.

(The Lancet, March 6.)

Since all return of purely local cancer must depend on amorphous cancer-cells not removed by previous operations, and as it begins in this fascia, Dr. Sweeting, in this paper, proposes, *instead of removing the breast from the fascia, to remove the lower two-thirds of the pectoralis major, and all that is above it except a portion of the skin.* Dr. Sweeting states that he has operated in this way in three different cases, and with permanent success in each case.

(D) CONCERNING THE LOWER EXTREMITY.**ART. 211.—Putting-up Fractures of the Leg.**

By JAMES PAGET, F.R.S., D.C.L., Surgeon to St. Bartholomew's Hospital.

(The Lancet, February 27.)

In an able lecture on the treatment of fractures of the leg, Mr. Paget stated that the custom of Bartholomew's Hospital is to put up all these fractures at once. "I think," he said, "that, as you watch fractures, you will find that there are very few instances indeed in which you need depart from this rule—very few in which the damage done is such as to make it at all advisable to leave the fracture for a time imperfectly at rest on a pillow, for any supposed righting of the fragments, diminution of swelling, or other supposed change for the better. I do not say that there are no such cases; each case is to be judged upon its own special grounds; but you may always begin the treatment of a fracture with a strong prejudice in favor of putting it up at once."

ART. 212.—Neuralgia of the Internal Saphenous Nerve.

By M. BOUSSEAU.

(Gazette des Hôpitaux, January 19.)

M. Bousseau related two cases to the Société Médicale d'Observation, which he believes may be thus correctly denominated. He says: 1. This form of neuralgia manifests all the characters observed in the neuralgias of the principal nerves of the trunk and limbs. 2. It is sometimes directed towards the terminations of the nerve, and at others mounts up from these towards its main trunk. 3. It may exist alone or concurrently with neuralgia of other branches of the crural nerve, and with that of the sciatic nerve. 4. It is a very rare affection, and is promptly ameliorated by injections of sulphate of atropia.

ART. 213.—Perforating Ulcer of the Foot.*(The Lancet, May 1.)*

Mr. Hancock read a valuable paper, at a meeting of the Medical Society of London, a short time ago, on this peculiar ulcer. The author had collected a few cases from the practice of the French surgeons, and mentioned one of his own. As these cases are decidedly rare, we are therefore induced to extract the following from a late number of the *Gazette des Hôpitaux* (Jan. 9, 1869): M. Masbrenier had to treat a man, fifty years of age, who had performed on foot a journey of 500 miles. The patient perceived that a corn had formed on the plantar region. As it gave pain he pared it, and found, underneath, a

small ulcerated cavity, of a red color, and containing a serous fluid. On the patient's application to M. Masbrenier, the ulcer was as large as a threepenny-piece, surrounded by hard epidermis, very thick, and of a yellow color. It was situated over the metatarso-phalangeal articulation of the third metatarsal bone. Walking was very painful. Lunar caustic was applied, and the indurated epidermis removed, a fair prospect of a cure being evident. The case is not complete in this shape; for considering what has taken place in other cases of the kind, it is very likely that some caries of bone will ensue.

ART. 214.—*Suture of the Tendo Achillis.*

By M. DELORE.

(*Bull. de Thérap.*, September 15; and *Medical Times and Gazette*, February 6.)

M. Delore, of the Charité Hospital, Lyons, relates the case of a boy, nine years of age, who was brought to that hospital twelve days after his tendo Achillis had been cloven by a small hatchet. A separation of the four centimetres existed between the two parts of the tendon. These were cut down to, and after some adhesions had been separated, and the edges of the tendon pared, these were brought into contact by four points of metallic suture. The leg was so fixed that no traction was exerted on the sutures. In from ten to fourteen days all the sutures were removed without union having taken place. There was, however, no separation, and the limb was kept in the same position, the starch bandage not being removed until the fifty-second day. Six weeks were required to restore the complete mobility of the limb after being so long fixed, but at the end of that time the boy had recovered complete use of the extremity. No separation between the ends of the tendon now existed, some adhesion having, however, taken place between it and the skin covering it.

ART. 215.—*Treatment of Talipes Varus.*

By BERNARD E. BRODHURST, F.R.C.S., Lecturer on Orthopædic Surgery at St. George's Hospital.

(*The Lancet*, December 5, 1868.)

The *treatment of varus* should commence within some few weeks of birth. Nothing is gained by delaying the operation; but, on the contrary, through delay more time is required to produce an equally successful result. From one to two months after birth is the time which should be selected for the operation.

In very slight cases the distortion may be removed by bandaging and movements of the limb; such treatment is long, however, and often it is unsatisfactory. In an ordinary case of varus the distortion cannot be removed by such means. With regard to mechanical treatment, Phillips says: "In the first degree of varus in infants, the foot may be restored without the division of tendons, and through the use of an instrument for extension only; but such treatment is both difficult of execution and occupies much time, it is often painful, and it is rarely efficacious. In every case, even the most simple, it is better to divide the tendons."

The tendons which require to be divided in talipes varus are those of the tibialis posticus and the tibialis anticus muscles, and the tendo Achillis. And in dividing these tendons it is right to remember that, varus being a compound distortion, its removal must be effected by various stages. Thus, inversion of the foot should first be overcome, after the tendons of the tibial muscles have been divided: the distortion is thus reduced to the condition of equinus. In infantile varus the plantar fascia is seldom contracted, or so much contracted as to require division; but when it has to be divided, it should be done before the section of the tendo Achillis is effected.

In dividing the tendon to be operated on, the knife should first be passed

well beneath it; and the cutting edge being then turned towards the tendon, this will be divided transversely on extending the limb. Some operators, Mr. Brodhurst says, cut down upon the tendon instead of cutting upwards or towards the surface, believing this to be the simpler method. It is a mistaken notion, however, for not only is the mode which he has indicated easier to perform, but effusion of blood is spared by adopting this mode of division of tendons. If not always entirely bloodless, this operation is for the most part so; but it is difficult to avoid wounding vessels when the knife is used to cut down upon a tendon, and frequently under these circumstances the effusion of blood is not inconsiderable.

To divide the tendon of the *tibialis posticus* muscle, the tenotome should be passed down to the edge of the tibia, at from three-quarters of an inch to one inch above the malleolus, and the sheath of the tendon be opened freely, without enlarging the external puncture. The rounded knife may then be passed into the wound, and, guided by the edge of the bone, it may be directed beneath the tendon. In the adult, the tendon being prominent and easily felt, the sharp pointed knife may be slipped beneath the tendon immediately that the sheath has been opened; but in infants it is safer not to use a pointed knife for the division of the tendon.

The anterior tibial tendon should be divided immediately after the posterior tibial has been divided. The knife should be passed beneath the tendon from without inwards as it passes over the ankle-joint, and the puncture should be made close to the tendon, that the artery may not be divided. Occasionally, the anterior tibial is more tensely contracted than the posterior; in which case it should be divided first.

It is of real importance that the tendons now mentioned—namely, the tibial tendons and the tendo Achillis—should be completely divided, so that the restoration of the shape of the foot should proceed without hindrance. Should the tendon be transfixed, and consequently only in part divided, the treatment would be rendered, at least in a large number of cases, nugatory.

Before, however, this tendon is divided, the mechanical treatment of *varus* must be undertaken.

After a tendon has been divided subcutaneously, the puncture is immediately to be closed with a morsel of lint, and the limb having been bandaged, is to be bound to a well-padded, flexible metallic splint. It is a rule which should always be observed to place the limb, after division of the tendons, in the same position as before the operation; consequently, the splint is to be bent to the angle which the distortion represented, and bound on the inner side of the foot. When the punctures have healed—on the third or fourth day—the splint is to be removed, and one similar in kind, but longer, is to be applied on the outer side of the leg and foot. Even though a slight degree of traction alone be employed, it will be found that in the course of three days the foot will have yielded more perhaps than could have been expected from the amount of tension which may have been exerted. On replacing the splint the same effect will be produced, until at length the foot is fully everted.

If in the infant it is important, as has been already stated, to deal with talipes *varus* as a compound distortion, and divide the treatment into stages, it is of much greater moment to attend to this injunction when the patient is older; for should the Achilles tendon be divided before inversion of the foot is removed, it may be impossible to bring the tarsal bones into their normal positions, and to unfold the longitudinal and transverse arches. It is therefore the rule not to divide the tendo Achillis, whether in infantile or in adult *varus*, until the foot has been fully everted. Although rotation of the anterior portion of the foot may only be slight, yet the difficulty of removing it, and replacing the bones in their normal positions, would be greatly increased by dividing the tendo Achillis, and thus destroying the fixed position of the os calcis.

The plantar fascia, when contracted, should be divided before the support of the Achilles tendon is removed from the os calcis, whether in infantile or in adult *varus*; otherwise the longitudinal arch of the foot can scarcely be fully expanded. It is rare, however, that the plantar fascia requires to be divided in the infant; yet occasionally the central portion of the fascia may require

division, or the inner band of fascia may alone be contracted. In either case the contracted portion should be fully divided. In the adult the plantar fascia offers a serious impediment to the restoration of the shape of the foot, and always requires to be freely divided.

After the deformity has been removed, active and passive exercises of the limb, together with friction, galvanism, bathing, and other like means, must be employed, until easy if not complete power of motion is gained; for if the shape of the foot alone is restored, and the power to move it is overlooked, the patient will walk, but without elasticity and without motion at the ankle-joint. Then distortion, to a slight extent at least, will recur, and the tendons will again require to be divided. Thus it is that the treatment of talipes varus consists of, in the first place, the removal of the distortion; and secondly, the restoration of the functions of the limb.

ART. 216.—*The Treatment of Talipes Valgus.*

By BERNARD E. BRODHURST, F.R.C.S.

(*The Lancet*, December 19, 1868.)

The treatment of congenital talipes valgus varies as the amount of deformity varies. Thus slight cases of valgus are occasionally met with, just as slight cases of inversion of the foot are also sometimes seen, which require no other treatment than simply the application of a bandage, to bring the foot gently into its normal position.

When the tendons are rigid—indeed in all severe cases of congenital valgus, and in all ordinary cases—it is necessary to divide the retracted tendons. Whenever tenotomy is necessary in valgus, the peronei tendons require division. In a somewhat increased grade of distortion the extensor longus digitorum will also require division. The distortion should then be reduced to a condition of equinus; and eversion having been slowly and gently, but entirely overcome, the tendo Achillis, when the gastrocnemius is tense, should be divided. The foot should then be fixed upon the leg until the natural position of the limb is gradually restored. The peronei tendons may be divided at one inch above the external malleolus, and the extensor longus and peroneus tertius as they pass over the tibio-tarsal joint.

The treatment of non-congenital valgus varies also according to the degree of deformity and the cause which gave rise to deformity.

A large majority of cases of valgus depends on general and local debility, and in these the form is restored by local support and rest of the limb. The general health always in these cases requires attention; the patients are usually overworked and under-fed or wrongly fed. In many, especially where the affection occurs in the young with lax fibre, a well-made boot, with a spring in the sole, together with attention to diet and limiting exercise, is all the treatment that is necessary. But when the distortion is of long standing, and structural shortening has taken place, it will be necessary to divide the peronei tendons, as well perhaps as the tendo Achillis. In paralytic valgus it is seldom necessary to divide tendons, except it be perhaps the tendo Achillis. And it is never necessary in rachitic valgus to divide any tendons. In rachitic valgus the tarsal bones undergo some change in form. The treatment in these cases is that which Mr. Brodhurst has recommended as the treatment of rickets. When rickets is far advanced, and the valgus condition of the foot is considerable, it is useless to attempt to restore the arch of the foot.

Spasmodic valgus being a sequel of convulsive action, it is necessary, after the subsidence of irritation, and when the epileptiform condition, or analogous state has been removed, to divide the retracted tendons and restore the shape of the limb. There is often superadded contraction of other muscles than those of the foot, the upper extremity also frequently being affected, as well as the muscles of the thigh (especially those of the internal and the posterior femoral regions); but in the foot it becomes necessary to divide the extensor longus digitorum, in addition to those other tendons which have been already mentioned.

The mechanical treatment of this, as of every other deformity, should be carried on without force, so that the integument may not be injured. The treatment in many cases is tedious; but force is not necessary: the structures will yield to slow and continued extension.

ART. 217.—*Talipes Calcaneus.*

By BERNARD E. BRODHURST, F.R.C.S.

(*The Lancet*, December 19, 1868.)

Talipes calcaneus.—The essential characteristic of talipes calcaneus, whether congenital or non-congenital, is depression of the heel. In congenital calcaneus, the dorsum of the foot is brought more or less into contact with the anterior surface of the leg; and it is retained in this position by retraction of the flexor muscles of the foot. In this respect therefore talipes calcaneus is the reverse of talipes equinus.

Congenital calcaneus is the least important of the several varieties of talipes; for the distortion is easily removed by manipulation and bandaging. And should it not have been removed before the child begins to walk, the muscles of the calf of the leg, which extend the foot, rapidly overcome this abnormal action of the flexors. Doubtless, however, cases are occasionally seen in which structural shortening of the flexor muscles has taken place, and where, consequently, operative proceedings are necessary to restore speedily the normal position of the foot. In these rare cases, the tendons of the flexor muscles require to be divided as they pass over the ankle-joint; the foot should then be supported on a well-padded, flexible splint; and at the expiration of a week, slight, gradual extension, as in the other forms of talipes, is to be made until the normal position of the foot is obtained.

Non-congenital talipes calcaneus is usually of paralytic origin: the heel drops through paralysis of the muscles of the calf of the leg. Here, therefore, as in congenital calcaneus, the heel first touches the ground in walking. The principal changes to be observed, then, in this form of talipes, are depression of the os calcis, elevation of the anterior portion of the foot through retraction of the flexor muscles of the foot, and shortening of the plantar fascia; through which the sole becomes deeply arched, and the heel and the ball of the great toe become further approximated. In this deformity, especially when it arises from paralysis, the muscles of the calf of the leg undergo wasting and fatty degeneration. And, when the distortion is of long standing, not only are the muscles of the calf of the leg attenuated, but all the muscles of the leg will have passed into a state, more or less, of fatty degeneration.

Treatment.—It is seldom necessary, in the treatment of this affection, to divide the flexor tendons. The plantar fascia, however, generally requires division, and subsequently mechanical treatment will improve the shape of the limb. If, however, these cases are seen soon after distortion has arisen, not only may such deformity be prevented, by the adaptation of mechanical means, but it is probable that muscular power may be in part or even wholly restored by means of stimulating applications, warmth, and galvanism. Unfortunately, however, these deformities are often not seen until much time has elapsed, when loss of power is probably to a great extent permanent.

ART. 218.—*On the Treatment of Talipes.**

By LOUIS BAUER, M.D., Brooklyn, U. S.

(*Lectures on Orthopædic Surgery*, New York, 1868.)

"The general treatment of talipes resolves itself into the following indications:—

- "1st. The removal of muscular impediment.
- "2d. The re-position of the tarsal bones to their normal location.

"3d. The re-establishment of the motor power.

"4th. The promotion of nutrition, growth, and development of the affected extremity.

"In young subjects, muscular contraction constitutes the *chief*, if not the only *cause* of most cases of talipes; their division is therefore the *chief and sufficient remedy* for the re-establishment of form and position of the foot. All that remains to be done besides tenotomy is to keep the newly acquired position by appropriate appliances. If the bones of the tarsus are malformed, as is usually the case in patients of some age, who have employed their affected extremity in locomotion, the second indication presents itself as the next object of treatment. The means of replacing the tarsal bones are the hand and mechanical appliances. The former is of invaluable service. Without causing any painful pressure or contusion, the great power of the hand can be concentrated at any place where it is needed; and the more assiduously it is employed, the more rapidly the bones will yield. There is no mechanical apparatus, however ingeniously constructed, that could be substituted for the hand in the mechanical treatment of talipes with an approximate degree of efficacy. In fact, could we without interruption employ the hand as a mechanical agent, we would relieve most obstinate forms of talipes which but too frequently withstand mechanical appliances. These latter we resort to as mere auxiliaries, and for the time that the hand cannot be used. Between the two, the mechanical treatment should be divided; and proper care should be taken that the apparatus is always properly adjusted, so as to act effectively in the intended direction. In order to accomplish this, the patient should be constantly under the eye of the attending surgeon, or of a competent substitute, and the propriety of placing a patient in an orthopædic institution suggests itself most forcibly. For to patients or nurses such a duty cannot be assigned; they are neither competent, systematic, nor resolute enough!

"To a certain extent, the remedies previously suggested comply also with the 3d and 4th indications. It is a common observation of orthopædic surgeons, that the relief of contracted muscles by tenotomy reacts most favorably upon the nutrition of the affected extremity, and nutritive supply promotes self-evidently its growth and development. Passive motion co-operates in the same direction.

"We may, however, do more to promote the motor power still extant, or maintain the fast deteriorating structure of the affected muscles. The most efficacious remedy in behalf of innervation is electricity and Faradayism. It should be used with assiduity every day and for months in continuation; it will prevent structural decay and stimulate the existing mobility; you can concentrate its action upon single muscles and muscular groups; and by perseverance, establish muscular action where none existed before. Electricity is the substitute of volition, and the best local gymnastic agent. Next are frictions with alcoholic liquids; with phosphorated oil (phosphorus gr. iij, dissolved in an ounce of warm almond oil); the use of the flesh brush, with or without cold irrigation, and such internal remedies as the case may suggest. Proper care should be taken to aid the generation of animal heat in the affected extremity, by advising the use of worsted stockings or flannel bandages. Besides this, a proper hygienic regimen should be observed, to promote the constitutional health.

"With all, gentlemen, you may fail in your efforts through the intricacy of the case. All surgeons have had such experience even in instances that seem to be promising. Hence I should advise you never to engage to cure, but simply to guarantee your skill and attention. Your professional dignity and prudence should prevent you from making a promise which you might be unable to realize. For the same reason do not uncharitably judge the failure of your colleagues, because they may have done their full duty and failed, where you might have been equally unsuccessful."

ART. 219.—*Loose Cartilage in the Knee-joint; Extraction by the Direct Method; Recovery.*

By ALFRED POLAND, F.R.C.S. (from Notes by Mr. W. YATES.)

(*Medical Times and Gazette*, January 9.)

The following case is here recorded for the purpose of confirming the opinion of many excellent surgeons, that the removal of these bodies may be effected with comparatively little danger, provided that all due caution be adopted both before, during, and after the operation; and, again, the case proves that the direct operation is still advantageously employed:—

John F., aged fifty-eight, admitted into Guy's Hospital on July 4th, 1868, under the care of Mr. Poland.

On admission the right knee-joint was somewhat larger than the left, but there was no pain or tenderness either on pressure or movements of the joint; the patella was freely movable, and the joint likewise. There was no abnormal appearance about the joint, and no deformity or protuberance; the integuments were perfectly natural. There was some little fluid in the joint, accounting for the slight increase in size. On careful examination a hard, rough, elastic substance was situated on the outer side of the right knee-joint, opposite the external condyle of the femur, and in a line with the upper part of the patella. It seemed to be imbedded deeply in the tissues, and cannot be felt without a good deal of pressure; it is perfectly movable, and slips about from one side of the knee to the other behind the patella, and it imparts a sort of crepitant sensation to the hand on manipulation. There is great difficulty in fixing it in its ordinary position at the upper and outer angle of the joint, in consequence of the thickness of the surrounding tissues, which contained abundance of fat. Various means were devised, and Mr. Millikin made a kind of forked clamp, which certainly held the loose cartilage in its position, but the pressure required was so great that the skin suffered, and the man was unable to endure it. The man repeatedly urged the extraction thereof, and would run all the risks attending the operation so that he could get rid of it, as with it in the joint he could not gain his living. He could not afford to be constantly laying up, nor could he work with his knee rendered motionless by mechanical contrivance to prevent the body slipping about. However, having signally failed in attaining the object of fixation, Mr. Poland determined to comply with the man's urgent wishes. Before proceeding to operate, the limb was placed upon a back splint, extending from the buttock to the foot, and kept in that position at perfect rest for a fortnight; and for three days before the operation an ice-bag was kept constantly applied over the knee-joint, so that on August 17th, 1868, the loose cartilage was removed under chloroform in the following manner.

The loose body being shifted to the upper and outer angle or pouch over the external condyle, the integuments were carefully drawn over it and pressed down deeply below the body into the joint, and there maintained, fixing and thus preventing the escape of it into the joint during the attempts at extraction. This important preliminary proceeding was ably performed by the dresser, Mr. Lovell, by means of the four fingers of the right hand, and his instructions were solely and wholly to attend to this pressure, and to keep it up even after the removal of the body, and until the external wound was finally closed up. A semilunar incision about two inches in length was made directly over the body, extending from the tendon of the biceps to near the patella; and after cutting the tissues to some considerable depth, the white glistening foreign body was visible. The knife divided the synovial capsule freely along the whole upper surface of the cartilage, and then a scoop-like instrument, made somewhat after the fashion of that used in lithotomy, was carefully insinuated behind the body before any attempt at extraction was made. The movement of its introduction gave rise to a peculiar sensation of a sudden giving way, as if a vacuum had been suddenly replaced by rushing in of air, a kind of suction-like process. The body was now tilted forwards, and after some little manipulation, in consequence of

the tuberculated character of the structure, which prevented its ready egress, the loose cartilage was extracted. There was no bleeding whatsoever, and the wound was sewed up with a common darning-needle by the overhand uninterrupted stitch. A compress was placed over the wound, and the assistant now, for the first time, relieved from his tedious job of compression, having perfectly succeeded in his object. The limb had never been moved during the whole operation, and was still on the back splint. A bag of ice was now kept assiduously applied. The stitches were removed on the fourth day, and the wound healed by first intention. There was some little tenderness in the joint on the third day, and this was due to some rough handling which had been unadvisedly used. The splint was removed at the end of the tenth day, and slight motion allowed. On the fourteenth day he was about the wards, and gradually regaining the free use of the knee. He left the hospital perfectly cured on September 2d, 1868.

The loose cartilage removed was of the size of a walnut; it was plano-convex, and the convexity formed into prominent round tubercles, just like a well-marked mulberry calculus. Its structure was of the usual kind of loose cartilage—namely, being composed of cartilaginous and osseous tissues.

ART. 220.—*On the Treatment of Hygroma of the Patella and of Hydrarthrosis by Forcible Compression.*

By Prof. VOLKMANN.

(*Berl. Med. Klinik.*, 1868; *Aerztliches Literaturblatt*, No. 9, 1868.)

Professor Volkmann has for ten years applied, with very good results, the method of forcible compression in the treatment of hygroma and of chronic synovial effusions of the knee-joint. The proceeding is the same both with effusions into the bursa patellaris and with effusions into the knee-joint itself.

To the hollow behind the knee is applied a flat wooden splint from nine inches to one foot in length, and thickly padded with wadding, to guard against pressure upon the popliteal vessels. This splint is slightly bent at the part corresponding to the flexure of the knee, so that the limb rests upon it in only a slightly bent position. The region of the knee-joint, as far as the splint extends, is then bound round with a broad and very firm bandage of flannel or knitted material, which is pulled tight with great force. The bandage is renewed every second day.

This method is painful. The patients become impatient and complain of uneasiness. The symptoms, however, do not increase in severity, but gradually cease. How far the pressure may be carried is learnt from experience. It is very soon observed that uninflamed parts are capable of bearing unusually powerful compression without damage.

The results are very satisfactory.

In cases of simple chronic hygroma of the patella, Volkmann can recommend this as a sure and rapidly efficacious plan of treatment. An hygroma is considered as simple even when there is extensive fibrinous thickening of the walls, and when no free bodies are contained within the sac. This is a very common form.

Volkmann observed but one failure in fifty-eight cases of hygroma in front of or behind the patella. In from four to seven days the effusion was completely absorbed, even when the swelling had been as large as the fist. When the contained fluid has disappeared, a loose wrinkled bag hangs down in front of the knee-joint. This never refills, but contracts very slowly.

No relapse was observed in any of these cases. Volkmann attaches great importance to the continuance of the forcible compression for at least two days after complete absorption has been obtained, and always orders the patient to wear a simple roller for a short time afterwards.

Forcible compression is less efficacious in cases of chronic effusion into the knee-joint, as the fluid is never entirely removed; still, this plan does more service than other means. In such cases the treatment by forcible compression

is associated with an evacuator puncture of the joint, and with the application of iodine. By these means the oldest and most obstinate cases are brought to a permanent cure.

ART. 221.—*On Resection for Knee-Joint Disease in Children.*

By Dr. KÖNIG.

(*Archiv f. klinische Chirurgie*, ix. p. 177—221, u. 446—470, 1867, 1868; *Schmidt's Jahrbücher*, No. 1, 1869.)

To the morbid changes of the knee-joint affected with tumor albus or arthrodial disorganizations, which may necessitate the operation of resection, belong tortuous fistulous passages, preventing a free discharge of pus, ulcerations of the capsule, conversion of the ligaments into granulations, through which spontaneous luxation takes place, ulceration of the articular cartilage, absorption of the osseous tissue resulting from abnormal pressure, primary disease of bone through abscesses in the epiphyses, &c. The clinical representation indicates a chronic course: swelling, formation of fistulæ, with increasing suppuration, dislocation, multiplicity of sinuous passages, and their relapses at certain spots, permit one to determine upon the great probability of morbid changes within the joint. The fistulæ lie in front of the thigh, one or two inches above the patella, by the sides of the extensor tendon; in the hollow of the knee at the inner side of the flexor tendons, rarely near the inner and outer condyles; in the leg they are frequently placed at the upper and inner parts of the tibia, frequently in the line of the joint to the right and left of the ligamentum patellæ. Probing gives uncertain information; on the other hand, crepitation during the friction of the two articular extremities and dislocations (backward displacement of the tibia, considerable distortion externally, the condition of genu valgum) are important symptoms. When joints thus affected are not cured by comfortable treatment they require resection. Against the possibility that after some years such joints can yet be cured, there is to be brought in prominence that the operation removes a host of dangers, often arrests the progress of the disease of the articular ends, and so by preserving part of the epiphyses is followed by growth of the diseased limb. Dr. König from measurements made on four joints in a newborn child and in individuals, respectively aged eleven, sixteen, and eighteen years, has found that the yearly growth of the epiphysis is about two-thirds of a millimetre at every age of life. From this it is evident that with children the surgeon must be very sparing in the removal of parts of the joint ends. The saw should be carried parallel to the cartilaginous ends of the bones. The limit of the removable parts in a child aged eleven years was in the centre of the lower end of the femur—the intercondyloid fossa, 1.2 centimetre above the articular surface, and at the condyles, 1.8 and 1.9 centimetre. In the femur of a girl aged sixteen years the extent of the removable parts was 1.4 centimetre in the centre, 2.1 centimetres at the condyles. In the tibia of a girl aged eleven years the saw should not be applied at a greater distance than 1.5 centimetre from the free margin of the articular cartilage in the centre, and 0.5 centimetre at each side. The tibia is generally arrested in its development to a greater extent than the femur. Useful limbs may be preserved by resection, even in cases where the surgeon is compelled, with children beyond the age of eleven years, to remove the bones beyond the limits formed by the epiphysial lines. Amputation is not indicated unless one is compelled to remove more than four inches. With children up to the age of ten years it is better to amputate in cases where the whole extent of the epiphyses must be sacrificed, since the limb left after resection loses in utility in consequence of the subsequent shortening, whilst in patients below this age resection should be undertaken whenever a large portion of the epiphyses can be retained. Above the age of eleven years, when not a very considerable portion requires to be removed from the joint, the surgeon should always perform resection, even when the whole epiphysis is to be sacrificed. In spite of the shortening which may be expected to take place, the patient may preserve a tolerably useful limb. Anæmia and general scrofulosis

do not contra-indicate resection; on the other hand, amyloid degeneration and tuberculosis do.

According to the statistics of 112 cases of resection of the knee performed up to the age of sixteen years, Dr. König shows that the percentage of recoveries in children is $62\frac{1}{2}$, of deaths $19\frac{1}{2}$, and of unsatisfactory results $37\frac{1}{2}$. The mortality after the operation on children is much reduced; the proportion of failures is about 1 in 3. The rate of mortality is less than that of amputations of the thigh, considered generally. Dr. König has performed five resections, two on children, all with success. The curved incision is the most suitable. Ankylosis is to be considered as the great aim. Retention or removal of the patella has no influence upon the result. Great care must be taken to carry the saw symmetrically. The surgeon should preserve as much healthy structure as possible. Partial resection is recommended by Dr. König. The horizontal portion of the incision is brought together by sutures, the lateral portions are left open, and are dressed at first with slips of oil lint, later with drainage tubes. Then a slightly bent gypsum splint is applied, and this is strengthened by long strips of linen or flannel placed along the politeal space and the sides of the limb. The whole limb is then placed in a hollow of a long sand-bag. The apparatus is allowed to remain as long as possible—from four to six weeks at least. It should not be removed, except with forward starting of the knee, great cedema of the extremity, and severe pains. The bandage must then be cut away with an ordinary carving knife, and a fresh one applied under chloroform. The gypsum bandage is to be preferred to all others.

Dr. König gives the following remarks on the indications for amputation, and those for resection and conservative treatment in cases of gunshot wound of the knee:—

1. The question of the admissibility of resection and conservation for gunshot wounds of the knee has not yet been decided by experience. In the face of the doubtful intelligence communicated by the statistics of thigh amputations, conservative treatment carefully applied and adapted to the principles of modern surgery seems in a great number of cases to be urgently prescribed.

2. The course of lesions of the knee shows that the patients suffer from absorption fever—septicæmia—which is set up by the local decomposition of the exudation, and may be either very acute and frequently fatal or less severe.

3. In cases of extensive injury of the joint by firearms primary amputation is demanded; a useful limb cannot be preserved, and injuries of this kind are very liable to result in an acute and rapidly fatal septicæmia. Less severe injuries may at once be treated according to the principles of conservative surgery. In consequence of exterior conditions primary resection is rarely possible in a campaign.

4. The treatment of these slighter injuries of the knee is carried out according to their course. The occurrence of acute septicæmia necessitates in most cases amputation. A not very acute attack of septicæmia requires a free discharge from the joint of secreted fluids, and the removal of foreign bodies and osseous fragments. In some cases simple incisions will be sufficient for these purposes; in others, extensive opening of the joint, with or without resection (removal of the involved portions of the bone), will be requisite. In all cases, and even after the last mentioned severe measures, firm bandages of gypsum, &c., should be applied.

5. Extensive destruction of bone, in every circumstance, even when no threatening symptoms are present, demands resection; or in cases where the lesion extends far beyond the epiphyses, secondary amputation.

6. The occurrence of pyæmia, except in rare cases, does not offer an indication for operative measures.

ART. 222.—*On Resection of the Knee-Joint.*

By L. STROMEYER.

(Handbuch der Chirurgie, Bd. 11, 1868; Schmidt's Jahrbücher, No. 1, 1869.)

According to Stromeyer, resection of the knee succeeds only under the following suppositions; 1. The existence of certain indicated hygienic conditions during the after-treatment (isolation of the patients in huts and tents). 2. Restricted destruction of the hard and soft parts (resection is not performed unless the saw can be applied within the limits of the epiphyses). 3. Very excessive distortion of the extremity causes great difficulties during the after-treatment, and even in the operation. 4. Great care in the after-treatment: an apparatus must be applied so as to keep the limb in a proper position. Stromeyer recommends German surgeons to perform resection in those cases in which, although the joint disease is in process of cure, the limb is likely to remain useless. Here it is useless to attempt extension with the patient under the influence of chloroform, for although the resistance of the soft parts can be overcome, the joint ends cannot be brought into a normal position, and the limb remains an unserviceable one. The resistance is extremely difficult to overcome, and excessive force is to be avoided. Fractures from gunshot wounds, compound dislocations, ankyloses of the knee in a flexed position, and caries serve as indications for the operation of resection.

The surgeon makes on each side along the posterior margin of the condyles a longitudinal incision four inches in length; these are joined by a transverse incision under the patella, which bone is excised. It is difficult to work with the saw in the exact direction, so that the osseous surfaces can be at once adapted to one another; the limb becomes straight after the resistance of the muscles, and aponeurosis has been overcome by extension during anesthesia. In a case of osseous ankylosis the surgeon saws through the bone from before backwards, and leaves near the popliteal space, behind the wedge-shaped piece thus formed, a thin bridge of bone, which is broken down by extending the limb. The soft parts should never be detached from the bones to a greater extent than is necessary for the easy working of the saw. If extension of the limb be difficult after resection tenotomy should be performed. The object always in view during the after-treatment is to bring about osseous ankylosis. The wound should be plugged after the operation to prevent parenchymatous after-bleeding. Esmarch's iron splint is the most suitable apparatus; and in an advanced stage of healing, leathern splints or a movable gummed bandage. Country air and good nursing are requisite conditions for success. After the cure the utility of the ankylosed limb may be very great; if firm union fails to take place, amputation must in the majority of cases be resorted to. The mortality in 200 recent cases of resection of the knee was 30—60 per cent.

ART. 223.—*On Resection of the Knee Joint.**(Pitha u. Billroth, Handbuch der Allgemeinen und Speciellen Chirurgie, Bd. iv. Abth. 1, Heft. 2, p. 293, 1868; Schmidt's Jahrbücher, Rev. 1, 1869.)*

Resection of the knee-joint is indicated, or at least justified, in cases of fracture from gunshot injuries, with comminution of the condyles and with projectiles remaining in the knee; also in cases of caries and necrosis of the epiphyses, of slight forms of tumor albus, and of true ankylosis in which no other measure was formerly open to the surgeon except amputation either at or above the knee. The operation, which is undoubtedly a valuable conservative measure, forms in and by itself no very severe proceeding, and is not relatively difficult in its performance; nevertheless, according to experience hitherto, it promises less chance of successful results than resection of other joints, from the facts that it is so frequently followed by persistent suppuration and exhaustion, and that the curative processes are much prolonged, and, in many instances, very

imperfect in their result; a faulty and useless limb being often all that is obtained after an extremely arduous, wearisome, and painful after-treatment. In children, with whom the chances are the best, the growth of the extremity is often impaired, so that the shortening of the leg increases year by year, and the limb which has been saved with so much trouble ultimately becomes worthless. The strikingly good results of resection in England seem to depend in a great measure upon the fact that surgeons there have frequent and early recourse to the operation in cases where German surgeons believe that the chances of cure without an operation ought to be favored. The question as to which of these two lines of practice is the better has not yet been definitely solved, at least an abundance of indications for the operation, in opposition to the terminal results of spontaneous cure, has not yet been in any way justified.

Professor von Pitha recommends Langenbeck's longitudinal incision by the side of the patella; this plan does not materially increase the difficulties of the operation, and on the other hand favors considerably the process of recovery. The patella is extirpated. The most suitable apparatus for confining the limb is a perforated gypsum splint, or the surgeon may apply Esmarch's apparatus, or again a splint made of block tin fitted to the thigh and leg, and furnished with a foot-board; the portion of this splint which corresponds to the knee should be movable. The leg must form with the thigh a very obtuse angle, open behind. The wound in the integument is lightly covered by charpie, and left open for three or four hours, on account of after hemorrhage. It is advisable to inject morphia subcutaneously after the narcotic influence of chloroform has passed off. Suture of the bones is the safest measure to carry out in order to oppose dislocation of the osseous fragments. A single metallic suture is passed between the bones at a spot corresponding to the external wound, and is allowed to remain for three or four weeks until union at the osseous surfaces has taken place. A lax fibrous union depends upon want of power in the limb, and necessitates an external mechanical support.

ART. 224.—*On the Condition of the Limb after Excision of the Knee-Joint, in Four Cases.*

*By HENRY SMITH, F.R.C.S., Assistant-Surgeon to King's College Hospital.

(*Medical Times and Gazette*, December 5, 1868.)

In the first case, a man, now thirty years of age, in perfect health, presented himself at King's College Hospital on Saturday, Nov. 7th. He was recognized as one who had been operated on twelve years previously by Sir William Ferguson for strumous degeneration of the synovial membrane, and ulceration of the cartilages of the knee-joint. On examination, the present condition of the limb is as follows: It is perfectly straight and well developed, the calf of the limb being nearly as big as that of the other; there is firm bony union at the knee, and the shortening of the limb is so slight that it is scarcely perceptible. This man's agility is wonderful, and as a proof of it he brought with him to the hospital a handsome bat, which had been presented to him as a reward for his great superiority and success in cricket.

The second case is that of a man, aged twenty-three, upon whom Mr. Smith operated in August, 1867, for disease of the knee-joint of many years' standing, and which had resulted in the production of a deformed, withered, and totally useless limb. Mr. Smith showed this man to the Fellows of the Medical Society of London in the October following, and at this date the union was not firm, and the patient's movements were difficult. An opinion was expressed at the meeting that most likely the man would get tired of his limb, and request its removal.

This same man presented himself to Mr. Smith at King's College Hospital in October last, fourteen months after the operation, and the following was the condition observed: The health of the man is excellent, the limb quite straight, and the union at the site of operation perfectly firm and osseous. The leg is

about an inch and a half shorter than the other, and is well developed. The man could move about with the greatest agility without the aid of a stick, and expressed himself as very well pleased with the result.

The third case is that of a boy, aged twelve, upon whom Mr. Smith operated in May, 1867. An especial feature of interest obtained here in the circumstance that the boy had been an inmate of one of our larger hospitals, and under the care of a surgeon in whose sight excision of the knee does not find favor, and who is a strong advocate of a reliance upon the resources of nature to bring about a cure. These views were carried out in this instance until the patience of the surgeon became exhausted, and amputation of the thigh was recommended. When Mr. Smith saw the boy, interference was clearly required, but he never met with a case better suited for excision. Mr. Smith was enabled to complete the operation, and yet take away but a very small section of the joint ends of the bones. In course of time this boy left the hospital with only a fibrous union. On Nov. 10th the condition of the boy was as follows: He was in robust health, and could move about with the greatest agility without the use of any support. This limb was apparently as long as that on the other side, but in reality about an inch shorter. It was not quite straight, but slightly bowed out. The union at the site of operation was osseous and quite firm. Limb generally well developed.

The fourth case is that of a girl, aged fourteen, on whom Mr. Smith operated just before Christmas last. She had extensive disease of the synovial membrane, and a very contracted and deformed limb. Mr. Smith was obliged to remove more than the usual thickness of bone in order to get good apposition of the parts. Her health was in a wretched state. The present condition of the girl is as follows: She is in excellent health, and can walk well without assistance. The limb is well developed, slightly bowed out; union at the site of operation osseous and firm. Leg on operated side is shorter than the other by one inch and a quarter.

From the results of these four cases but one conclusion, Mr. Smith writes, can be arrived at—viz., that in each instance the patient has been restored to health, and that a useful limb has been preserved to its possessor; and these two results are what the surgeon seeks for in the performance of excision.

ART. 225.—*On Resection of the Tibio-Tarsal Articulation.*

By E. SPILLMANN, M.D.

(*Archives Générales de Médecine*, No. 2, 1869.)

Out of sixty-eight cases collected by Dr. Spillmann, in which the ankle-joint was resected for compound dislocations or compound fractures, there were fifteen unsuccessful: of these eleven resulted in death after the operation, two in death after consecutive amputation, and two in recovery after amputation. The causes of death in the thirteen cases were gangrene, purulent infection, and purulent deposits. Mortality 18 per cent.

Tables of seventy-three cases in which the operation was performed for pathological affections of the ankle-joint show that the proportion of cures to unsuccessful and doubtful cases were as fifty to twenty-three. There were twelve deaths resulting from the resection, and two from consecutive amputation. The number of consecutive amputations was eight, in three of these there was a successful termination; the result of the remaining three is not indicated.

Dr. Spillmann concludes his memoir with the following propositions:—

1. Partial or total resections on account of caries, necrosis, or prolonged suppuration, constitute excellent operations, when these affections are the secondary results of a wound opening into the joint.

2. Resections for pathological affections properly so called, are, on the other hand, very hazardous, not so much by reason of the direct mortality which they occasion, as from the numerous relapses which follow the operations.

3. An exception is to be made in favor of partial resection of the fibula, which generally escapes a relapse.

ART. 226.—*On Gonorrhœal Sciatica.*¹

By M. AL. FOURNIER.

(Gazette Hebdomadaire, No. 48, 1868.)

There are still many obscure points in the etiology of sciatica, and numerous cases occur in which the origin of the evil cannot be discovered. Among these forms of sciatica from the causes hitherto undetermined, there is one which, according to the clinical observations of M. Fournier, is developed in subjects affected with an urethral discharge, derived from the gonorrhœal influence, and, in short, dependent upon the morbid state of the urethra.

Inexplicable as this may seem, it is nevertheless certain that it is a fact. The existence of gonorrhœal sciatica, and that the affection is not merely a coincidence in the same subject of two maladies, one of which is frequent in occurrence, and the other extremely common, are established by M. Fournier in the following arguments:—

First argument: *Sciatica figures in the number of the manifestations of gonorrhœal rheumatism.*—How are we to regard sciatica arising in the middle of an attack of rheumatism of gonorrhœal origin? As, for example, a case of rheumatism of the gonorrhœal type, characterized by joint affections, tendinous synovites, ocular phlegmasiæ passing from one eye to the other, erratic pains, &c. To these symptoms is added a sciatica, coming on without any appreciable cause, and without any external provocation, which lasts for a few days and then vanishes.

Two hypotheses may be brought forward to explain the cause and the nature of this sciatica: the affection is either an intercurrent and accidental incident, in short, a coincidence, or rather it is one of the symptoms and of the manifestations of the parent affection, with which it is bound up in the same rank with the joint symptoms, the synovites, the ophthalmiæ, &c.

The second hypothesis is, according to M. Fournier, the more simple and the more rational. Several symptoms of the same order are found united in the same patient, is it not logical to attribute them to the same cause? How and why are we to cut up such a collection of symptoms and say that the joint affections, synovites and the ocular phlegmasiæ, are due to gonorrhœal rheumatism, but the sciatica springs from another cause? And again, what will this other cause be? It is sought for in vain, and nothing is found which can explain the development of this special phenomenon of sciatica, but that common influence which holds in dependence upon it the coincident morbid symptoms. M. Fournier thus derives the logical inference that sciatica is to be considered as an expression, in a special form, of gonorrhœal rheumatism.

M. Fournier gives two cases which demonstrate the reality of sciatica as a manifestation of gonorrhœal rheumatism. The first case was that of a man, thirty-one years of age, strong and robust, and without antecedents of rheumatism in his family, who had never himself previously had rheumatism, and who in the year 1862, after having contracted gonorrhœa for the first time, was attacked with gonorrhœal rheumatism characterized by synovitis and other joint affections. In 1863 he had a fresh clap, which was quickly accompanied by ophthalmia and an intense sciatica. The sciatica disappeared a few days before the cure of the discharge. In 1866 there was a third attack of gonorrhœa; six days after its appearance, pains commenced in the tendine Achillis and in the right knee, and these were followed by intense pleurodynia on the left side, arthritis of the left knee, and sciatica; and afterwards by hydrarthrosis of the left knee, pains in the right wrist, and conjunctivitis in the right eye; finally, by numerous rheumatic manifestations affecting various regions (articular synovites, pains near the osseous apophyses, in the muscular masses, &c.), coming on successively or simultaneously with the movements of remission and exacer-

¹ Read before the Société Médicale des Hôpitaux, October 23, 1868.

bation, for a period of four months. The cessation of these symptoms coincided with the cure of the discharge. The subject of the second case was a young man, twenty-five years of age, lymphatic but with good general health, who had had three attacks of gonorrhœa, all of which were accompanied by multiple and varied rheumatic symptoms. During the third attack, in the midst of varied affections, such as double ophthalmia and pains in the different joints, there appeared a perfectly characteristic and very intense sciatica. In addition there was observed a painful swelling of the head of the third metacarpal bone, with a rosy coloration of the integuments and stiffness of the joint.

Second argument: *Several attacks of sciatica associated with other undoubted manifestations of urethral rheumatism have been observed to manifest themselves successively in the course of several successive attacks of gonorrhœa.*—This argument seems to M. Fournier to possess great value. Here, in fact, all suspicion of coincidence ought to disappear. If the first attack of sciatica might be considered as an accidental complication, it would indeed be an abuse of chance to attribute to it again the development of the second attack. The reproduction of the same phenomenon under identical conditions is significant to the highest degree. It proves a cause producing on two occasions the same effect. And this cause is evidently the gonorrhœal influence.

M. Fournier, in support of this opinion, reports two cases of his own, and cites two given in Sir Everard Home's work on the treatment of strictures.¹ In these remarkable cases sciatica was developed each time during the course of successive attacks of gonorrhœa, complicated with stricture of the urethra, and did not disappear until after the cure of the stricture. According to Sir Everard Home these sciatic attacks are not so much a direct consequence of urethral stricture, as they are the result of gonorrhœal inflammation of the contracted part of the canal. This is precisely the doctrine which is maintained by M. Fournier, who believes that the sciatica as well as the arthritis, the ophthalmia, the articular inflammations, is caused in these cases by an irritation of the urethra.

Third argument: Among those subjects who are so singularly constituted that they cannot contract a gonorrhœa without being afflicted with rheumatic symptoms, *sciatica is sometimes observed to alternate in a series of attacks with rheumatic manifestations of a different order.*

A patient, for example, has been affected with three attacks of rheumatism in connection with these consecutive attacks of gonorrhœa. In the two first attacks the symptoms attacked the joints, the synovial sheaths of the tendons, the eyes, &c., but nothing was manifested in the sciatic nerve. In the third attack, on the contrary, sciatica appeared either alone or accompanied by the other local manifestations of rheumatism.

It may be said that this attack of sciatica was not a gonorrhœal affection, and that it does not take a part in the series of symptoms of the same nature. If, in the third attack of rheumatism, argues M. Fournier, some joint-swelling had appeared instead of the sciatica, would the nature and the gonorrhœal origin of this joint-system have been doubted? Certainly not. But, then, why refuse to sciatica that character which would be accorded without dispute to the articular localization? Cases which prove this argument are not rare, and M. Fournier has observed several examples.

Gonorrhœal sciatica differs from ordinary sciatica in its mode of evolution. Thus the former generally commences with a sudden and instantaneous explosion, and reaches at once its *summum* of intensity; moreover, the pains which are excessive at first, soon diminish in violence, becoming moderate and tolerable, so that about the fifth, fourth, or even the third day a relative calm is established, after which, the affection, having persisted in the same condition during a longer or shorter period, definitely disappears. The total duration of the symptoms is generally short, particularly if it be compared with that of ordinary sciatica.

The diagnosis can in most instances be readily established when the sciatica

¹ Practical Observations on the Treatment of Strictures in the Urethra. London, 1803.

appears in the midst of a series of rheumatic manifestations; but it sometimes happens that during the course of a gonorrhoea, sciatica is presented as the single and unique manifestation of urethral rheumatism. Here the diagnosis becomes more obscure; have we to do with a simple independent neurosis, or with a secondary gonorrhoeal symptom? One may indeed, in cases of this kind, suppose a pure coincidence. However, gonorrhoeal rheumatism is not manifested in every case by one series of symptoms; the affection may be restricted, and, as one often sees, to a single manifestation—to an articular fluxion or a tendinous phlegmasia, or an ophthalmia. In the same manner, it may affect but one nerve, and so produce a sciatica without attacking other organs or apparatus. In these cases the diagnosis will be confirmed if the patient has presented in a previous attack of clap symptoms of rheumatism, if the sciatica is not attributable to any diathetic or occasional cause, if its *début* was rapid and its height of intensity quickly attained, finally and chiefly, if it follows a rapidly decreasing march to disappear in the course of a few days.

With regard to treatment, gonorrhoeal sciatica differs in a striking manner from ordinary sciatica, in the fact that it is otherwise accessible to the intervention of art. It is readily curable. Cupping and scarification has, in M. Fournier's practice, been attended with constant success. The performance of this is immediately followed by considerable relief, a second application is rarely required, and the pain is finally removed by the external application of narcotics. In conclusion, M. Fournier calls the attention of observers to a singular and but little known lesion which may in the course of gonorrhoeal attacks be mistaken for sciatica. This is *acute hygroma of the ischiadic serous sac*, often associated with acute pains which are seated near the principal painful focus of sciatica, which frequently radiate, which are either continuous or marked by exacerbations, and which are exaggerated by pressure or movements. The tumor formed by the hygroma concealed in the depth of the soft parts, cannot be recognized without difficulty, and moreover, unless foreseen, is seldom sought for. Confusion in the diagnosis may readily take place, and without doubt this hygroma has often been confounded with a partial or limited sciatica. This lesion forms an addition to the manifestations of urethral rheumatism, which are already so many and so varied.

ART. 227.—*Case of Dislocation of the Hip-joint; Reduction without Pulleys.*

Under the care of Mr. Hulke, of the Middlesex Hospital.

(*The Lancet*, February 20.)

As is well known, the ordinary plan adopted when the head of the femur is dislocated upon the dorsum of the ilium includes the use of pulleys, by which traction is effected, whilst a perineal belt provides the counter-extending force. It was Dr. Reed, of Rochester, U. S. (according to Mr. Erichsen's *Surgery*, fifth edition, 1869), who introduced the process of "manipulation" as a means of reduction, without employing pulleys. In the following case, kindly furnished us by Mr. Norton, house-surgeon, this simple plan was immediately successful.

A woman, aged twenty-eight, was admitted into the Middlesex Hospital in July last, at midnight, with dislocation of the left hip and broken ribs, caused by a fall from a second floor window whilst drunk. The caput femoris was plainly felt on the dorsum ilii; the thigh was rotated inwards, and flexed at a right angle, the knee resting on the other thigh just above the patella. The injured thigh was half an inch shorter, and the distance between its great trochanter and the anterior superior iliac spine one inch greater than on the uninjured side.

Complete muscular relaxation having been obtained with chloroform, the pelvis was firmly held down on the floor by a couple of assistants (the patient lying on her back on a mattress), while Mr. Hulke made traction of the thigh by a jack-towel clove-hitched above the knee, at first in a vertical direction

at right angles to the line of the trunk, and then flexing and adducting the thigh on the abdomen, the head of the bone slipped into the socket with a distinct snap.

ART. 228.—*On Excision of the Hip-joint.*

By JOHN ASHHURST, Jun., M.D.

(*Pennsylvania Hospital Reports*, 1869.)

1. "Excision of the hip-joint, for hip disease, has been performed more than twice as often in males as in females; a fact which can only be accounted for by supposing the disease to be more frequent among the former, and therefore probably generally originating from local external causes, to which the female sex is naturally less exposed than the male. Hence the numerical argument, *quantum valeat*, is in favor of the local origin theory of hip disease.

2. "The sex of the patient exercises little or no influence upon the success of hip-joint excision.

3. "The age of the patient, on the other hand, exercises a very important influence upon the success of the operation; the mortality rising from 25 per cent. between the ages of five and ten (the most favorable period), to 25 per cent. when the patient is more than thirty years old.

4. "The operation of excision of the hip has been performed with about equal frequency on either side of the body; it seems to have been rather more successful on the left side than on the right.

5. "Total excision has been at least as successful an operation as partial excision; hence the acetabulum should be freely dealt with, if its condition requires gouging.

6. "The preserved limb has been known to be useful in about one-third of the entire number of cases.

7. "In only one-fourth of the fatal cases has the operation itself been chargeable with the patient's death; of the various sequelæ of the operation, pyæmia has caused death more frequently than any other.

8. "The *immediate* risks of hip-joint excision are not as great as those of many other capital operations; only one-eighth of the whole number of cases having died within the first month.

9. "Amputation may be occasionally resorted to with advantage, when it becomes probable that the excision of the hip-joint is not about to be successful; and in some rare cases it is probable that hip-joint amputation might properly be proposed as a primary operation for the treatment of hip disease.

10. "Finally, excision of the hip-joint is to be recommended in cases of hip disease *in children*, where there is no reasonable prospect of a recovery under the ordinary modes of treatment. When the operation becomes necessary, it should of course be performed without delay; but in the case of this, as in that of every other important surgical procedure, the question of opportunity must be left to the judgment of the surgeon in each individual instance."

ART. 229.—*On the Indications and Contra-indications for Resection of the Hip-Joint in Cases of Caries.*

By R. R. GOOD, M.D.

(*De la Resection de l'Articulation Coxo-fémorale pour Carie*, Paris, 1869.)

1. *Favorable indications.*—The indications favoring the success of resection of the coxo-femoral joint are less numerous than the contra-indications; we will indicate summarily those which are the most plausible.

In the first place, it is proper to mention the absence of all organic disease, and the absence of any diathetic condition hereditary or acquired.

The duration of the disease ought to be taken into account; if it has been of long continuance, the patient, however robust he may have been at its commencement, will be worn out by insomnia, pain, the prolonged repose, and the

drain from suppuration. The nearer to the commencement of the disease the more opportune will be the period for operation, because the surgeon has then a chance of finding more energy in the patient's struggles for recovery. One ought to intervene when the articular abscess, opened externally, leaves behind it persistent fistulæ.

The restriction of the disease to the head of the femur would be a good indication, if the determination of this point were always possible. But all that has been written on the seat of fistulæ, in relation to the determination of the diseased parts of the osseous structures, is not true in all cases; and in diagnosis the surgeon can often depend but upon the duration of the disease, the head of the femur being the only part affected at the early periods, and the implication of the cotyloid cavity being always consecutive. In a certain number of cases of fistula, multiplicity will lead one to suspect the extension of the disease to the iliac bone, if certainty cannot be acquired by a rigorous determination of the lesions by means of metallic sounds introduced into the fistulous passages.

Luxation of the hip is another favorable indication, post-mortem examinations having demonstrated that in cases of this kind caries had not attacked the cotyloid cavity which remained free from the head of the femur.

The most favorable age for the operation is from three to twelve years.

The progress of the disease may itself furnish indications. A slow progress is a favorable indication, whilst operations applied in cases of rapid coxalgia have nearly always had a lamentable termination.

The degree of acuteness of the lesion ought to be taken into consideration. Before operating it is proper to wait until the disease has passed into a chronic state; nothing should be attempted so long as the fever maintains some acuteness, and the periarticular parts are red, swollen, and very tender.

Hasty separation of the head of the femur is also a good condition for the operation, for this, in certain cases, has been capable of uniting with the cotyloid cavity, and preventing the invasion of the iliac bone by the disease.

2. *Unfavorable conditions.*—Phthisis ought to be placed at the head of the diseases the complication of which contra-indicates resection. The majority of surgeons have always been unwilling to operate upon patients presenting from the commencement traces of pulmonary tubercles. All authorities side in this opinion, which, moreover, is ancient. Observation has, in fact, taught that operations so severe as that of resection of the hip precipitate the march of phthisis, and induce its development in many cases in which it had not previously existed. Still, a number of English surgeons, Holmes, Erichsen, &c., profess that the cure of a lesion arrests in the majority of cases the march of pulmonary phthisis by removing its source which exists in the focus of suppuration and in the resulting exhaustion. Velpeau had advanced these ideas a long time previously; he had noticed cases in which, by removing a centre of suppuration seated in osseous tissue, he had at the same time arrested early but undeniable pulmonary lesions. It is necessary to remark, however, that he never dreamt of performing an operation of any gravity upon a subject affected with advanced phthisis. Recently we have learnt that Prof. Richet, on the occasion of an operation for resection of the knee performed on a young girl who had suffered from hæmoptysis which seemed to have been complementary to the menstrual discharge, revived the ideas of his old master. According to Richet, as to Velpeau, centres of osseous suppuration might, under conditions the action of which escapes us, induce the carrying of molecular particles into the lungs and provoke lesions of these organs. Cases have been observed by Richet in which the cure of the peripheric lesion, the cause of these pulmonary disorders, was followed by their complete disappearance.

Scrofula is an express contra-indication to any attempts at operation. Being the expression of a general condition it is not arrested in its progress by the bistoury; if cured at one spot it relapses at another and with greater gravity, as the suppuration which necessarily accompanies all bloody operations, by debilitating the patient, will render him more liable to the manifestations of the diathesis. Some few surgeons, among whom may be mentioned Bauer and Sayre, do not consider scrofula so much as a cause of coxalgia. Taking the

cause for the effect, they regard scrofula as a consequence of the articular lesion, and not as its active cause. With these surgeons traumatism plays the chief part in the malady. To admit these mechanical theories would be, in our opinion, to ignore completely the results of clinical experience. We think that to attempt resection on a scrofulous subject is to perform a very lamentable action. The most to be allowed with patients of this kind is the extraction of sequestra from fistulous openings or the modification of the surfaces of the wound, so as to diminish the abundance of the suppuration, and thus to prolong the life of the patients; in no case would it be proper to attempt a radical operation.

Exhaustion of the patient is also an express contra-indication. One or two cases of successful operations performed upon exhausted subjects may be cited, but it would be dangerous to depend upon an exceptional instance in attempting an operation almost constantly fatal under such conditions. The patient does not possess the necessary strength for bearing up against a renewed and increased suppuration, or for the reparation of tissues. It is never right to wait until this advanced period before attempting an operation; and this precept, it seems to us, has been disregarded in France by the majority of those who have performed resection of the hip, and we have no doubt that this is the cause of their want of success and of the resulting disfavor into which the operation has fallen. We are unable to adopt the opinion of Gosselin and Larrey, that the operation is especially indicated in the adult. The researches that we have made demonstrate that coxo-femoral resection, often followed by success up to the age of twelve years, has the less chance of success the more the period of its performance is advanced beyond this epoch of life. The surgeon cannot depend upon the exceptional case reported by Szcymanowski, who operated successfully on a patient aged fifty-eight years. A great extent of osseous lesions is also a contra-indication in the majority of cases. It will be impossible to destroy the whole focus of the caries, and to perform an incomplete operation is worse than doing nothing, for we do not share in the views of Bauer that caries of the cotyloid cavity will heal spontaneously after resection of the head of the femur. For us resection of the cotyloid cavity is the more indispensable, as the carious portion frequently masks an abscess of the pelvis. Implication of the cotyloid cavity is not, however, a contra-indication to the operation, as has been thought for a long time, and as many French surgeons still suppose; statistics prove that patients who had presented this lesion of the cotyloid cavity have completely recovered, and the number of cases is sufficiently great to enable one to form a decided opinion. But if the lesion be not arrested here, and if it have extended still farther to the pelvis, what will be the conduct of the surgeon? Erichsen has resected the ischium, and has had the good fortune to cure his patient; Sayre with like results has resected the pubis; and Syme has removed those two osseous portions from the same patient, who survived. But it would be imprudent to count upon success in analogous cases, and preferable not to operate if one cannot discover the extent of the disorders.

What is to be done when the caries extends towards the body of the femur? Mr. Gant removed five and a half inches of the upper part of this bone, and Spencer eight and a half inches, preserving at the same time the periosteum. Both patients recovered. But as a rule, if the femur be found affected over a great extent, it will be better to follow the example of Barnes and Henry Lee, who finished the operation by disarticulation.

Abscesses of the periarticular soft parts and purulent collections are not contra-indications in cases in which the inflammation is of slight intensity, for here the operation is the sole chance one has of giving a free exit to the pus and preventing inevitable death.

Abscess of the pelvis symptomatic of caries of the cotyloid cavity, which may form before as well as after perforation of the acetabulum, is not a contra-indication to the operation. Clinical reports furnish us with many examples of recovery under these circumstances. The diagnosis of pelvic abscesses is difficult before the operation; they remain inclosed within the pelvis and may open into the canals which traverse this osseous girdle, they never follow, how-

ever, the march of abscesses which are symptomatic of morbid changes of the psoas muscle or the vertebræ, which follow the course of the psoas muscle as far as its inferior insertion, or rather the sheath of the femoral vessels and that of the sciatic nerve. We have said before that implication of the acetabulum is not, in our opinion, a contra-indication. Patients in whom this cavity being in a state of disease has been scraped have made very good recoveries. But those surgeons who, following the proposition of Bauer, have been unwilling to destroy by any means the carious portions of this portion of the skeleton, have had to deal with persistent fistulæ, and have lost their patients. The pus taking origin in the cotyloid cavity or only from the inner surface of the side of the pelvis, accumulates between this bone and the outer surface of the aponeurosis of the internal obturator muscle; from thence it flows into the ischio-rectal fossa external to the levator ani muscle and anus, and finally opens near this natural orifice, constituting a variety of anal fistula; at other times the pus perforating the levator ani opens into the rectum and is expelled with the feces. The pus may find its way again into the urethral canal, as was observed in a case reported by M. Marzolin. It has also been seen to empty itself into the bladder and vagina. If, on the other hand, instead of flowing internally, the pus gains the superficial parts in order to open externally, it generally reaches the anterior or inferior iliac spaces. Mr. Hancock was among the first who directed attention to this point. He explained this point of election for the opening of the abscess by the position which the patients take during the evolution of coxalgia. By introducing a curved probe through this opening, one may easily reach behind and below the diseased acetabulum and feel crepitation. If, on the other hand, the abscess be symptomatic of a morbid change in the psoas, the probe can be passed only backwards and upwards in the direction of this muscle.

What should be the conduct of the surgeon when he has succeeded through different diagnostic means in making out perforation of the acetabulum and the existence of an abscess in the pelvis? If the pus infiltrated within the pelvis exposes the patient to peritonitis, as has been observed several times, it is better in our opinion to operate as Hancock did in a case which resulted in complete success. Several American and English surgeons have followed his example, and with good results. Barwell, in 1865, operated upon four patients presenting these serious complications, and out of this number had three with excellent results. These results serve for the encouragement of all those who wish to proceed in his footsteps.

ART. 230.—On the Conservative Treatment of Gunshot Fractures of the Femur.

By Dr. GRITTI.

(*Annali Universali di Medicina*, September; and *British and Foreign Med.-Chir. Review*, January.)

In a letter addressed to Professor Palasciano, Signor Gritti, Surgeon-in-chief of the Milan Hospital, adduces the experience of the late Italian war as corroborative of his views of the value of conservative surgery in gunshot fracture of the femur contained in a work on that subject published in 1866. This additional material consists of 49 cases observed carefully during the war of 1866. Other cases must also have occurred of which no notes have been procurable, for as the wounded amounted to 3619, the proportion of 2 per cent. of cases of fractured femur, exhibited by former statistics, would bring the total number of cases up to about 70. However this may be, here are the results observed in these 49 cases. In 1 the head of the femur was fractured and the patient recovered; in 5 the trochanters were fractured, with 5 recoveries; in 6 the upper third of the shaft of the bone was fractured, all recovering; in 15 its middle third, with 4 deaths and 11 recoveries; in 6 its lower third, with 5 recoveries and 1 death; in 11 cases the condyles were fractured, with 2 deaths and 9 recoveries; in 4 cases, all recovering, the seat of fracture was not specified. Thus, of the 49 cases, 41 recovered and 8 died. So favorable a result calls for

some detailed account, and this the author furnishes in a tabular statement of the particulars of each case as regards its treatment. Summing this up, he reports that in 30 of these cases, in which the conservative treatment was pursued throughout, there were 2 deaths and 28 recoveries; in 12, in which conservative treatment had to be supplemented by amputation, 6 died and 6 recovered; and 7 cases, in which amputation within 24 hours was performed, all recovered. Thus, while of 42 cases treated conservatively, 28 recovered, all those did so in which immediate amputation was performed. Dr. Gritti, however, notwithstanding the remarkable success attending the operation, believes that it should be confined within narrow and precise limits, and that its success on this occasion was much owing to the exceptional circumstances under which it was performed. The patients were treated in small hospitals, in a healthy and mountainous locality, and were furnished with a nutritious diet. The 42 cases treated conservatively, with and without consecutive amputation, furnished a minimum mortality of 19.04 per cent.; and a more intelligent application of the principles of this treatment will be followed by still more favorable results. The dispersion of patients which acted so beneficially in the Austrian and Prussian armies was not easy of accomplishment in Italy, where the patients requiring prolonged treatment were consigned to overcrowded hospitals situated in the centres of towns, and often fell victims to typhus or pyæmia. The extraction of foreign bodies was not performed so effectually as it ought to have been, while the means of transport of the wounded were defective.

After adverting to some of the cases in particular, Signor Gritti concludes by saying that the clinical facts observed during this war confirm the value of the conservative treatment of fracture of the femur, especially when this takes place at its upper part, which is just the contrary to what happens in amputation, this failing more and more the higher up the limb it is employed at. But in order to succeed in conservative surgery the surgeon must be thoroughly indoctrinated with its principles. His exploration of the wound also ought to be prompt and complete, so that he may at once decide whether conservative or demolitionary treatment should be resorted to. If the first is decided upon he should remove from the wound, making dilating incisions for the purpose if necessary, all foreign bodies and splinters; and then place the limb in an apparatus which at once secures its immobility and reduction, and allows of easy access to the wound. Had the surgeons employed in 1866 more exactly fulfilled these conditions they probably would have saved some lives by performing immediate amputation, while, in other cases, they might have avoided the too tardy extraction of foreign bodies, the development of phlegmonous and profuse suppuration, and perhaps some of the consecutive amputations.

ART. 231.—*In-Growing Toe-Nail: Hospital Out-Patient Practice.*

(*The Lancet*, May 29.)

Subjoined are notes upon the treatment of in-growing toe-nail from five well-known hospital surgeons, whose opinions will be read with interest and instruction.

King's College Hospital.—In slight cases of in-growing toe-nail—an affection which in the great majority of instances has its seat in the great toe only, and is caused by the lateral compression of the toe by the boot—Mr. Wood scrapes down the nail on the affected side until it is thin and yielding, like paper. The thickened skin overlapping the nail is then pared off with a sharp thin-bladed knife until it is close down to the raw, but not so far as to draw blood. A pointed stick of the nitrate of silver is then applied lightly to the painful ulcerated chink, and a small piece of lint, rolled so as to fit into the groove of the nail, is dipped in glycerine, and applied by means of a thin strip of adhesive plaster or small India-rubber band.

In cases where the mischief is the result of hypertrophy of the thick skin forming the lateral margin of the groove, and without any deformity in the shape or thickness of the nail itself, Mr. Wood pares off skin, under ether spray, to a level with the nail, and then applies the pressure as before by means of a small

roll of lint. If the toe-nail itself be broad, distorted, irregular, and bent laterally by the pressure, the best plan is to remove a triangular portion of the nail itself in the middle line, the angle reaching down to the centre of the nail. This allows the nail to fold up and accommodate itself to the limited space without digging in at the edges.

But if there be much ulceration, irritation, and distorted growth at the matrix of the nail itself—which in long-continued cases, and in scrofulous or syphilitic conditions of the system, is sure, sooner or later, to ensue—the only plan from which effective relief can be obtained is by the time-honored but excruciating process of division into the quick, down the nail itself at the inner third, and evulsion of the affected part of the lunula from the matrix. In doing so, it is important to get all that part of the root away entire, as a small portion growing up with an irregular angle will cause a speedy return of the disease. In all cases it is important also to regulate and ease the boot, during the renovation of the nail, that the skin should not again overlap and be forced down upon the edge, which always induces a return of the disease.

St. Mary's Hospital.—Mr. Norton never performs any operation in the treatment of in-growing nails. He applies, in the following manner, a solution of liquor potassæ (two drachms to one ounce). A piece of cotton wool is saturated with the solution, and pressed gently down between the upper surface of the nail and the soft tissues, which latter are usually in the form of a fungous mass of granulations. The solution permeates the substance of the nail, and softens and pulpifies the superficial cells. The wool is kept continually moist with the lotion, and the softened nail-tissue is wiped away each morning. The nail in a few days becomes thin and flexible, and if desired, can now be pared away without pain, or it may be allowed to remain for a few days longer, when it becomes entirely removed by the solution. Mr. Norton considers it most essential in the treatment that the lotion be continued until all ulceration has disappeared, otherwise the too early hardening of the epithelium becomes again a source of irritation, and promotes a return of the disease, or rather prevents a cure from being effected.

Of the several cases treated by this method during the past two years, one of whom suffered from in-growing nails on both great and both second toes, not one patient has returned to the hospital, and, therefore, Mr. Norton believes that in no case has there been a recurrence of the affection.

St. Thomas's Hospital.—Mr. Croft finds that, commonly, patients suffering from this disease do not come under his notice until the affection has been some time in progress. In such cases it is his practice to adopt the radical cure advocated by Dupuytren, which is to divide the nail lengthways, and turn out the in-growing half of the nail. In all but the hardest patients he employs the ether spray to benumb the toe. He prefers to cut down the centre of the nail with a strong short scalpel, and then to raise the half-nail to be removed, by forceps (using the latter as a wedge), before plucking it from the matrix. In other cases he slits up the nail with scissors. He prefers this radical plan of treatment in advanced cases, because it saves the time of both the patient and surgeon, and because other plans include, besides time, frequent skilled dressings, of which poor people are rarely capable. In an early stage, Mr. Croft cuts out the in-growing corner of the nail, cauterizes the granulations deeply with nitrate of silver, places a small pad of lint off the cauterized spot, and then, by means of a long narrow strip of plaster winding round the toe from the unaffected side, fixes the pad firmly in its place, at the same time directing its pressure from the nail. Under this treatment, well carried out, he finds cicatrization soon takes place. Absolute rest is enjoined. The nail requires to be kept carefully trimmed.

University College Hospital.—Mr. Christopher Heath has never seen any good result from paring the centre of the nail, or applying caustic to the exuberant granulations overlying its margins. He has always found the simplest and most satisfactory method of treatment to be, to take a narrow slip of the nail away with the scissors and forceps, taking care to extract the whole depth of the nail, which is not always easy, owing to the sodden condition in which the tissue has been kept for a length of time, by which it is ren-

dered very friable. When the edge of nail thus extracted is examined, it almost always presents a rough serrated margin, and it is this which causes the irritation. After the removal of the source of irritation the use of careful dressing, with lint gently pressed down by the side of the nail, is necessary to repress the granulations, and the use of a lotion of nitrate of silver or sulphate of copper (two grains to the ounce) has been found very advantageous. Mr. Heath finds it necessary to warn patients who have suffered from in-growing nail to wear wide-toed boots, and to keep the sulcus between the nail and the flesh clear of epithelium. They should be careful also to apply for relief the moment they feel uneasiness from the nail, when a perfectly painless removal of a small portion of the nail prevents further mischief.

In inveterate cases, where the nail and toe are deformed, the former being very much in-curved, Mr. Heath recommends the removal of a slip of nail on each side, and the destruction of the corresponding portions of matrix, under chloroform, either by removal with the scalpel, or the application of the actual cautery. This lays the patient up for a few days, but effects a permanent cure. Mr. Heath believes that it is never necessary to remove the entire nail, by splitting and evulsion, as is often recommended.

Westminster Hospital.—Mr. Francis Mason has had under his observation at this hospital during the last few months an unusually large number of cases of in-growing toe-nail. Mr. Mason believes that the plan ordinarily recommended of cutting the toe-nails as we do the finger-nails—that is, of rounding their corners—often induces the condition it is intended to obviate. He has generally found that the so-called in-growing toe-nail has been primarily caused by injury in trimming the nail. Too much of the corners is removed, and a sensitive and occasionally a bleeding surface is left. The patient will soon after perhaps wear a tight boot, or possibly may take a long walk. In the act of walking, the tender surface is pressed up against the slowly-growing nail, causing increased irritation, and giving rise to those painful granulations invariably seen, in different degrees, in such cases. Mr. Mason therefore advises that the free edge of the toe-nail should be cut square. Respecting the treatment of in-growing toe-nail, the plan which Mr. Mason has most confidence in is this: A sharp-pointed stick of solid nitrate of silver is applied with some vigor to the base or under-surface of the painful granulations, and a small piece of dry lint, or lint dipped in black mercury lotion, is then carefully inserted, and the whole toe surrounded with water dressing. An astringent or other lotion, according to circumstances, may be subsequently employed. The highly sensitive surface is thus destroyed, and the patient is enabled to attend to his business in comparative comfort. Such a plan of treatment has been found uniformly successful in Mr. Mason's hands, and he believes that occasional apparent failures are due to the method not being thoroughly carried out. It should be remembered that it is useless merely to touch the surface of the granulations with the caustic; the base is the part to be attacked. If the operation be efficiently performed, it is doubtless attended with considerable pain for the moment; but the pain is reduced to a minimum by the use of the ether spray, and especially if the caustic be well pointed, instead of being, as so often happens, broad or angular at the extremity. Evulsion of the nail is seldom required for this condition, being more suitable—indeed necessary, combined sometimes with the free application of the strong nitric acid—in cases of disease of the matrix, questionably entitled “*onychia maligna*,” which is not unfrequently met with on the fingers of unhealthy and ill-fed children.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 232.—*On the Mask of Pregnant Women: Ephelis.*

By M. D. JEANNIN.

(*Gazette Hebdomadaire*, No. 47, 1868.)

Quæ utero gerunt in facie maculum habent quam ephelis vocant. Since this remark of Hippocrates, the word ephelis has often been used to designate the particular tint with which the face of some pregnant women is spotted. Unfortunately this was not the only application of the name. Hippocrates had already described under the same title of ephelides, the spots produced by the action of the sun; and at a later period pathologists gave this name to all the cutaneous colorations attributed rightly or wrongly to luminous or calorific rays. The introduction of the term *hepatic spots*, and the distinctions made by Alibert, did not elucidate this matter. The word *chloasma* was then brought prominently forwards; distinction was made between the *chloasma* of pregnant women and the *cachectic chloasma*; and this latter term, by the irregular applications which were made of it, contributed in its turn to maintain the confusion of tongues. The discovery of epidermophytes excited the hope that light had finally been cast upon the wide field of dermatoses; and it has done so with regard to a certain number of questions, but as yet has not added very much to the chapter of the cutaneous affections of women. M. Bazin, and many others with him, consider the mask as an epidermic lesion due to the presence of the *microsporon furfur*. M. Cazenave looks upon it as an ephelide, that is to say, a pigmentary alteration. M. Hardy, less exclusive and probably more just in his appreciation, proposes that the affection may be sometimes an ephelide, at others a parasitic affection.

Parasitic or not, how is the formation of the mask to be explained?—how can he explain its disappearance after delivery?—its continuation for a shorter or longer period afterwards, or even its reappearance when the female is not again pregnant? The partisans of the parasitic theory reply that the fungus, which had found favorable conditions for its development, does not fail to disappear when those conditions exist no longer. They may add that the fungus will reappear whenever the favorable conditions are renewed, &c. All this explains nothing, for what are these conditions? or, in default of a peremptory explanation, what is the morbid condition to which the affection can be attributed in cases where pregnancy does not exist? What is the function the disturbance or suspension of which predisposes to *chloasma*, or at least coincides with it? "One has observed," says M. Rayet, "women who have been thus affected for several weeks; when the tint has been intensified at the menstrual epochs, then these spots arise and disappear without sensible desquamation of the epidermis. Several pathologists have designated, under the name of *chloasma gravidarum* and of *chloasma amenorrhœa*, similar spots, the appearance of which coincides with the appearance and the suppression of the menses." Here we have an observed fact,—distributed or suppressed menstruation.

In support of this fact M. Jeannin has published the following observations, which demonstrate, he hopes, that there exists a close relation between menstrual disturbances and the pathological coloration which is called *the mask of pregnant women*.

In order to specify directly the various circumstances in which the mask has

been met with, M. Jeannin has distributed the cases in a certain number of series. One or two typical cases are reported of each particular class, and the number then given of the analogous cases which M. Jeannin has observed. In his enumeration of facts the author proceeds from simple to compound cases, from the frequent instances in which the relation between the mask and the state of the menses is evident, to those in which this relation seems to be less striking.

The following are the conditions that have been observed by M. Jeannin, and are illustrated by cases in his contribution.

1. Evolution of the mask during the pregnancy of a woman who was favorably delivered and did not suckle her child, and its rapid removal at the return of the menstrual epochs, two months after the lying-in.

Of this condition thirteen cases have been observed by M. Jeannin.

2. No return of the menstrual epochs until six months after delivery in a woman who did not suckle her child; persistence of the facial coloration up to the time of renewed menstruation.

Of this condition three cases have been observed.

3. After a normal delivery a woman did not suckle; at the return of the menses the mask disappeared. Some months later the menses were suppressed after mental excitement, and cure not renewed in the normal condition for eighteen months. The mask reappeared at the time of the suppression, and remained until the woman was restored to her normal condition.

Two cases observed.

4. Evolution of the mask in a woman who suckled her infant and had no menstrual return during lactation. Persistence of the coloration during this period.

Three cases observed.

5. Disappearance of the mask on the return of menstruation during lactation.

Two cases observed. M. Jeannin has been assured by many women that the freckles and milk spots have always disappeared very rapidly when menstruation returned during the period of lactation.

6. Disappearance of the mask in the course of a prolonged lactation. No return of the menses after weaning. Reappearance of the mask.

Cases in which the mask did not depend upon the pregnant condition.

7. The mask associated with amenorrhœa in women who had not conceived.

Two cases observed.

8. The mask determined by dysmenorrhœa in young girls who had not conceived.

Three cases reported.

9. Obstinate facial coloration in a woman whose menstruation was performed regularly, with very marked diminution of the mask at each menstrual epoch. One case observed.

M. Jeannin believes that these cases will serve to establish his view that, in the majority of instances if not in all, the mask of pregnant women, considered as a parasitic affection by some, a pigmentary affection by others, and an affection both parasitic and pigmentary by a third school, is influenced by disturbances or by suspension of the menstrual discharge, that is to say, a physiological hemorrhage.

This contribution is offered as a kind of introduction to a more considerable work which M. Jeannin hopes to publish soon, and in which he will endeavor to demonstrate by facts the curious relation which exists between a singular coloration of the face and the absence of hemorrhage in a malady commonly and generally accompanied with serious bleeding.

ART. 233.—*On the Direction of the Uterus in the Adult Female.*

By M. PANAS.

(*Archives Générales de Médecine*, No. 3, 1869.)

The following have been derived from M. Panas from clinical researches made on 114 women admitted into the Hôpital de Lourcine:—

1. Anteversion, in varying degrees, is a physiological condition in nearly half the cases.
2. An unbent uterus, that is to say, one fairly perpendicular to the plane of the inferior outlet of the pelvis, does not, when considered as a strictly physiological phenomenon, represent one-third of the cases.
3. Of all changes in the position or the direction of the uterus, those backwards, as retroversions or retroflexions, are the least common, and have on that account a greater pathological significance.
4. It is very likely that the uterus tends from the age of puberty to become straightened with increase of years.
5. Very early menstruation coincides with flexions, whilst late menstruation is met with in a straight position of the uterus.
6. In a general fashion, the menses present greater irregularity in uterine deviations than in a straight position of the organ.
7. The calling of the woman seems to exert no influence upon the direction of the uterus.
8. The inflexions and inclinations of the uterus, which may be designated as physiological, present the peculiarity that they are but slightly marked in more than one-half of the cases.

ART. 234.—*On Improved Methods of Inducing and Accelerating Labor.*

By ROBERT BARNES, M.D., Lecturer on Midwifery, &c., St. Thomas's Hospital.

(*St. George's Hospital Reports*, vol. iii.)

The conclusions from the histories of the cases related by Dr. Barnes may be summed up in these propositions:—

1. In induced premature labor the accomplishment of delivery is extremely uncertain as to time.
2. This uncertainty involves danger to the mother and child.
3. The immature condition of the uterus often entails defective contractile power and increased resistance to the passage of the child.
4. Hence it is desirable to aid the dilatation of the cervix, and to supplement the contractile power, to watch and control the course of labor throughout, and to bring it to a termination within a definite period.
5. This aid can be afforded safely and beneficially by the cervical water-dilators, and by the forceps and turning.
6. By the proper use of these accelerative means children may be saved which would otherwise in all probability perish.
7. In the management of cases of placenta prævia these accelerative means are of eminent value.
8. Labor may always be completed with safety within twenty-four hours.

ART. 235.—*The Induction of Premature Labor.*

By ROBERT BARNES, M.D. Lond., Fellow and late Examiner in Midwifery at the Royal College of Physicians; Obstetric Physician and Lecturer on Midwifery and the Diseases of Women and Children at St. Thomas's Hospital.

(*Medical Times and Gazette*, March 6.)

The plan Dr. Barnes has successfully practised for some years is the following: First, overnight pass an elastic bougie six or seven inches into the uterus, coil up the remainder of the instrument in the vagina; this will keep it *in situ*. Next morning some uterine action will have set in. In the afternoon, at an appointed time, proceed to *accelerative* measures.

Before rupturing the membranes, adapt a binder to the abdomen, and let

this be tightened, so as to keep the head in close apposition to the cervix. This will often prevent the cord from being washed down by the rush of liquor amnii. Dilate the cervix by the medium or large bag, until the cervix will admit three or four fingers. Then rupture the membranes, and, before all the liquor amnii has escaped, introduce the dilator again, and expand until the uterus is open for the passage of the child. If the presentation is natural, if there is room, and if there are pains, leave the rest to nature, watching the progress of the labor. If these conditions are not present, and one or other is very likely to be wanting, proceed with accelerative methods—that is, to the forceps or turning, or, in cases where the passage of a live child is hopeless, to craniotomy. By pursuing this method we may predicate with great accuracy the term of the labor. Twenty-four hours in all—counting from the insertion of the bougie—should see the completion of the labor. The personal attendance of the physician during two hours is generally enough. The mode of proceeding must vary according to the conditions of the case.

ART. 236.—*On the Induction of Premature Labor.*

By JOHN BRUNTON, M.A., M.D., L.F.P.S.G., Surgeon to the Royal Maternity Charity, London.

(*Glasgow Medical Journal*, February.)

Dr. Ramsbotham says “that the only positively sure method of inducing premature labor consists in the destruction of the integrity of the ovum. When this is effected, the process of gestation is certainly interrupted, and that of labor soon commences.”

There are other methods, Dr. Brunton writes.

1. The continued administration of ergot of rye and oxytocic agents, which act through the system on the uterus.
2. Those which act reflexly, such as galvanism, irritation and manipulation of the mammae, which are so uncertain that they will be passed over.
3. Those which act on the cervix uteri and membranes—Barnes's dilating bags, and Simpson's tents.
4. Kiwisch's injection of warm water into the vagina.
5. Those which act on the cervix and cavity of the uterus—Hamilton's and Simpson's. The former separates the membranes with the finger, the latter by a sound or bougie.
6. Cohen's and Simpson's method of separating the membranes at the cervix by injection of warm water.
7. Professor Lazarewich's (of Kharkoff), which has been adopted in the cases recorded by Dr. Brunton.

It is of the utmost importance in such cases that the process of labor should go on as nearly as possible in a manner like the natural—begin, continue, and terminate “as quickly, commodiously, and inoffensively as possible to the mother and child,” and at the same time, *with as little trouble as possible to the medical attendant*: in other words, that the mother should suffer as little as possible, and that the practitioner be put to just as little as possible trouble.

Now, look at the means usually employed. With one exception, those of Simpson (separation of the membranes by the bougie), they are a source of anxiety and trouble to both patient and practitioner.

If we take the case of rupturing of the membranes, often days elapse before labor sets in, the contraction of the uterus often by its pressure killing the child, while the suffering of the mother is excessive, on account of the difficulty of dilatation of the os uteri, produced by want of nature's dilating bag.

In Professor Hamilton's method, viz., the separation of a portion of the decidua from the cervix uteri, by insinuating the finger within the os, and detaching the membranes, gently dilating at the same time, “if we have not thought it prudent to dilate at once, . . . we may repeat the dilatation in a few hours, . . . and it may be necessary, if the os be high, to *have the hand introduced into the vagina.*” This process is tedious, very painful to the

mother, and often failing, has to be followed by puncture of the membranes, thereby bringing the case into the class before mentioned. In dilating with sponge tents and bags, as one dilates another has to be introduced, the patient being kept on her back—a constant repetition, alike troublesome and irksome to patient and practitioner. While, as regards the sponge tents, independently of their difficulty of insertion, they act “as a foreign body, and produce such a degree of local uneasiness and irritation as to inflict no small amount of discomfort and continuous pain upon the patient.”

Kiwisch's plan of injecting a continuous stream of tepid water against the cervical part of the uterus requires to be done night and morning, and usually on the “fourth or fifth day” labor supervenes—a process easy, irksome, and often failing.

Cohen's and Simpson's injections of warm water into the cervix uteri, to detach the membranes, though successful, are open to the same objections as Kiwisch's. Professor Simpson says “the injection may be repeated *twice a day or oftener*,” “*but the repetition of the injection sometimes becomes irksome to the mother as well as the accoucheur.*”

Of Simpson's other method, viz., the separation of the membranes by the introduction of a sound or bougie, easy as it is to the patient, we are told, “in all cases a single introduction of the bougie will by no means suffice; like the tents and douching, it requires, in most instances, to be repeated more than once.” Besides, there is danger of rupturing the membranes in the rotation of the bougie or sound.

Professor Lazarewitch, from experiments, has concluded that the fundus uteri is thickest, is most supplied with sentient nerves, and therefore is most irritable. On these grounds he is of opinion that if any condition of the uterus can be brought about which is similar to that which occurs at the full term of pregnancy (when labor sets in), such a condition will induce labor. It is well known that at the full term, when labor sets in, there is a separation of the ovum from the uterus. The membranes that hitherto were adherent become detached more and more till delivery takes place. On this account Professor Lazarewitch directs that premature separation of the membranes should be produced at that part of the uterus which is most sensitive, viz., the fundus and body, and this is accomplished by the injection of a stream of warm water between the membranes and the uterine wall, up towards the fundus uteri. The instrument he employs is a metal syringe to which is attached an elastic canula, with a wire in it. The syringe being filled, the canula is passed well up between the membranes and uterine walls. Six ounces of warm water is to be steadily injected, taking great care that no air be introduced. The stream is directed towards the fundus, separating the membranes as it advances. That the water reaches high up is known by the expression of the patient who feels it rushing up above the navel. Of course it is necessary to diagnose the position of the placenta, in case artificial separation of the placenta should result and an awkward complication ensue. He states that the nearer the water goes to the fundus, and the greater the separation of the membranes, the sooner labor takes place. Professor Lazarewitch's narration of cases in the volume of *Obstetrical Transactions* (London) for 1867 is exceedingly good and satisfactory. These cases are twelve in number.

In the cases narrated by Dr. Brunton, the apparatus used was very simple, and the whole operation took from five to ten minutes. The apparatus consists of an ordinary India-rubber enema syringe, with central ball and valves; the bone rectum-piece being removed, a gum-elastic canula, with one opening at the end, and without a wire, of No. 10 size, is substituted. The directions for operating are—Place the patient on her left side, with the pelvis near the edge of the bed on which she lies; put a basin containing a couple of quarts of warm water (80° to 90°) conveniently and immediately below, to catch the water which flows away, and serve at the same time for injecting. Fill the syringe, by placing both extremities in the water, squeeze the ball two or three times, till all air is expelled, and then put a *small piece of beeswax* softened in the water, into the mouth of the canula (in the water), so as to prevent any of the water from running out, when the canula end is removed for introduction into the

uterus. The canula can now be passed up for six or eight inches into the uterus anteriorly or posteriorly, as the case may be, and the injection commenced. Of course, it is obvious that the other end of the syringe must on no account be removed from the water, else air would pass into it and be injected. The injection is carried on till about a pint or pint and a half of the water is injected; the water first injected usually returns immediately, and is caught by the basin—the rest remains in utero for a few minutes, and gradually comes away with a slight discharge of mucus and blood. It is advisable for the patient to rest for half an hour or so, to allow the water to drain gradually away; after that, she can get up and go about her household duties.

Labor sets in directly in some cases, and in others as late as twenty-five hours after.

ART. 237.—*The Cæsarian Section.*

By ROBERT BARNES, M.D. Lond., Examiner in Midwifery at the Royal College of Surgeons.

(*Medical Times and Gazette*, December 12, 1868.)

The most frequent condition that renders the Cæsarian section necessary is *deformity with contraction of the pelvis*. The operation is justified whenever the contraction is such as to render it impossible to extract a dead child through the natural passages. This may be stated at 1.75" conjugate diameter and below, at the higher limit of 1.75" coming into competition with craniotomy. Cases may also occur in which a conjugate diameter of 2.00" may call for Cæsarian section if the pelvis is much distorted, so that the diagonal and transverse diameters offer insufficient compensation for the narrow conjugate.

The most frequent form of distortion calling for the Cæsarian section is that which arises from osteomalacia. In malacosteon the sides of the triangle forming the brim of the pelvis are all pressed inwards, and are more or less convex. The result is that the brim is practically divided into two parts, neither of which is available for the passage of the head. Rickets also will sometimes produce a pelvis that will leave no alternative. The slipping down of the lumbar vertebrae—spondylolisthesis—into the pelvic cavity, if to any great extent, leaves no other resource. (See a memoir on this subject, *Obstetrical Transactions*, 1865, by Robert Barnes.)

The next most frequent causes are tumors of various kinds growing into the pelvis, such as bony or malignant tumors springing from the wall of the pelvis; tumors of the ovary descending into the pelvic cavity, and getting fixed there. Dr. Sadler of Barnsley has recorded a case (*Medical Times and Gazette*, 1864) in which the operation became necessary from the pelvis being filled up with an enormous *hydatid cyst* springing from the liver. Other exceptional causes, chiefly remarkable on account of their extreme rarity, have been observed. Atrisia of the cervix uteri and vagina may be so extensive and unyielding that the Cæsarian section may be less hazardous than the attempt to open up a canal through the cicatricial tissues.

We are sometimes driven to the operation after having exhausted other modes of proceeding—for example, when craniotomy may have failed to deliver. It is a remark of Dr. Radford that most of these cases are progressive in their character.

The Cæsarian section, or rather gastrotomy simple, is indicated in certain cases of rupture of the uterus, when the child cannot be extracted with advantage through the pelvis.

It is resorted to when the mother has died undelivered, in the hope of rescuing the child. In this way several children have been saved. The success, of course, will depend greatly upon opening the uterus very soon after the mother's death.

The chance of preserving the child by the Cæsarian section post-mortem will be much influenced by the circumstances of the mother's death. If she dies by sudden injury, the child may survive a little longer. If she dies from hemor-

rhage or rupture of the uterus, the child's death is likely to have preceded that of the mother. If she dies from phthisis or other gradually exhausting disease, the child may survive some minutes.

A condition which has several times led to the Cæsarian section has been *disease, mostly malignant of the lower segment of the uterus*, preventing its due dilatation. In this case, the opportunity is commonly presented of inducing labor or abortion. The conditions of choice are often perplexing. If labor be induced before seven months, the prospect of a viable child is small, but the uterus may be able to dilate sufficiently without injury. On the other hand, the life of the mother is probably doomed to be of short duration from the progress of her disease. Any injury to the diseased structures, as even by premature labor, is liable to accelerate her death. Is it not then better, both in her interest and in that of the infant, to let things go on to the natural term of gestation? She may live two or three months longer, and the child will undoubtedly have a better chance.

What is the best time to select for the operation?

1. Sometimes, of course, all choice is denied us, or the range of time offered is extremely limited. If called to a woman in labor at term, and under the conditions assumed to require the operation, it ought to be performed without delay. There is, if possible, greater reason than in conditions requiring other less formidable proceedings, to anticipate the exhaustion and local injury that follow upon protracted labor. It is a misfortune, tending fatally to compromise success, to be obliged to operate when the system is prostrated; when the structures that have to be wounded are so worn and injured that the power of reaction and repair is seriously reduced; and when the blood is deteriorated by the products of nervous and muscular overwork. It is, then, a clear indication to operate early in labor.

2. If the patient come under observation early in pregnancy, we have the double opportunity of considering the propriety of inducing labor, with the object of avoiding the operation, and of selecting the time for its performance should it be unavoidable. Is it an advantage to operate during labor?—that is, does the process of labor conduce to the success of the Cæsarian section? Amongst Continental practitioners, and indeed generally here, the Cæsarian section being regarded as a mode of delivery, it is held to be a primary indication to respect the laws of parturition, and to enlist the natural powers in our aid as much as possible. It has been therefore almost universally considered proper, in cases where the ultimate necessity of resorting to the Cæsarian section is recognized, to postpone the operation until the advent of labor. It is presumed that the epoch which nature fixes for labor is that when the most favorable conditions for the process and for the recovery are present. The whole organization is better prepared, and the uterine muscles having acquired their highest stage of development, and contraction having actually set in, it seems reasonable to anticipate that the wound made in the uterus will close better, and that the necessary changes attending delivery will be more safely carried out.

Dr. Ludwig Winckel (*Monatsschrift für Geburtskunde*, 1863), whose experience in this operation is the greatest, says the most favorable time is the end of the second stage of labour, when the membranes are ready to burst. He advises not to rupture the membranes. The escape of liquor amnii into the abdomen does no harm, and the extraction of the child is more easy if the membranes are kept entire until the moment of seizing the child.

But admitting spontaneous labor at term to be a favoring condition, may not labor induced artificially before term be an equally favorable condition? The arguments in support of the affirmative deserve attention. Dr. Braxton Hicks brought on labor a fortnight before term as a preparation for the Cæsarian section, influenced by the opinion that by so doing the uterus, taken at a period prior to the highest degree of degeneration of its muscular fibres, would heal better. Dr. Barnes is not disposed to think that the degree of fatty change observed in the mature uterus is any impediment to reparation. There are, at any rate, too many examples of complete repair after section by the knife, and even after rupture, to admit of a doubt that the mature uterus is in a condition not un-

favorable for the operation. On the other hand, it cannot be doubted that the uterus at seven or eight months is also capable of complete repair after injury. We may, then, very properly consider whether, assuming things to be equal, *quoad* the uterus, there may not be other circumstances that may rightly turn the scale in favor of premature delivery. Such, Dr. Barnes thinks, do exist. For example, if we wait for the advent of natural labor, we may be called upon to operate in the middle of the night, and surrounded by many difficulties, all concurring to lessen the prospect of success. By selecting our own time we may have daylight, the assistance of colleagues, and every appliance that may be thought useful.

The best time to select then would be as near the natural term of gestation as possible, and this may be determined approximately by taking some day in the estimated last fortnight of gestation.

Then comes the question, shall we start labor before operating, or proceed to the operation at once without exciting any preparatory action of the uterus? Dr. Barnes thinks the preponderance of reason is in favor of operating upon a uterus already in the act of labor. The *first step* will be to pass up an elastic bougie into the uterus overnight. This will excite some degree of uterine action. Next day, the hour of operating being fixed, say for 1 P.M., we may in the morning ascertain to what extent labor has proceeded. If the os uteri is not open more than enough to allow a finger to pass, it will be useful to dilate it a little more with the caoutchouc bag No. 2. This will of course induce further contraction of the uterus, and secure one most desirable object—namely, a free outlet for liquor amnii and other discharges by the natural passages.

The labor then being started thus far, we are ready for the operation. The question between general and local anæsthesia arises. In all abdominal operations the vomiting so liable to attend or follow chloroform is a serious drawback. The violent straining is apt to open the uterine wound, to stretch the abdominal wound, to destroy the “rest” which is such an important condition of repair, and thus to compromise the success of the operation. The ether spray is at least free from this objection; and possibly further experience will show that it ought to be preferred.

ART. 238.—*The Cæsarian Section: the Operation: the Instruments and Assistants.*

By ROBERT BARNES, M.D. Lond.

(*Medical Times and Gazette*, December 26, 1868.)

The *instruments* required are: 1. A sharp bistoury. 2. A bistoury having a blunt end. 3. A director such as is used in ovariectomy. 4. A large probang armed with sponge. 5. Artery-forceps and ligatures in case of bleeding from the abdominal wound. 6. New sponges. 7. Ice. 8. Two powerful apparatuses for inducing local anæsthesia by congelation or chloroform. 9. Silver or silk-sutures for uterine and abdominal wounds. 10. Lint. 11. Many-tailed bandage and adhesive plaster.

Assistants.—Skilled assistants should stand one on each side of the patient. Another should be free to hand instruments, and assist in sponging, &c. A nurse or two to help will complete the *necessary staff*.

Preparation.—The bowels should be emptied by castor oil or by enema on the morning of the operation.

THE OPERATION.

Position.—The patient is laid on a table on her back, with the head and shoulders slightly raised. The operator stands on the patient's right; an assistant stands on each side.

The *catheter* is introduced to empty the bladder. If the case be one of osteomalacia, explore for the last time carefully to ascertain if the pelvis can be opened up by dilatation by the hand. In this way, twice at least, the operation has been avoided.

In cases of great distortion, the uterus is not seldom found considerably displaced. When there is great prominence of the sacral promontory, and squatting of the chest down upon the flanks, the uterus is necessarily thrown much forward, sometimes so as to overhang the symphysis. With this there is occasionally marked lateral obliquity; and, what is less common, but still likely, a twisting of the uterus on its long axis, bringing one of its sides to look more or less forward.

It is also desirable to take note, by auscultation, of the seat of attachment of the placenta. Assistance may also be obtained by laying the hand flat on the uterus, when, if the walls are thin, a peculiar thrill or vibration marks the seat of the placenta, which is confirmed by feeling the part bulging a little, as if a segment of a smaller globe were seated on a large spheroid. This has been pointed out by Dr. Pfeiffer (*Monatsschr. f. Geburtsh.*, 1868).

The uterus is then brought into proper relation with the linea alba, so that the two incisions may correspond, unless it be found that the placenta can be avoided by cutting a little on one side of the median line. The abdominal incision is best made in the *linea alba*, extending from below the umbilicus to within about three inches of the symphysis pubis. When nearly through, it is desirable to get a finger through a small opening, and, using this as a director, to cut from within outwards, so as to avoid scratching the uterus. The assistants support the abdominal wall on either side, looking out to prevent the escape of intestine. The *uterine incision* is made in the middle line, sparing the fundus and lower segment as much as possible, as these parts are not well adapted to close by contraction. Circular fibres predominating near the cervix tend to make the wound gape. A manœuvre described by Winckel, and forced upon him by his being often called upon to operate with insufficient assistance, here deserves attention. An assistant hooks the forefinger of each hand in the upper and lower angle of the uterine wound, and, lifting them up, fixes them in contact with the corresponding angles of the abdominal wound. This shuts out the intestine effectually, and tends to prevent the blood from running into the abdominal cavity.

If the placenta is found directly behind the wound, the hand of the operator is insinuated between the placenta and the uterine wall, detaching it until the edge is felt, when the membranes are pierced, and the child is seized by the feet. This point Dr. Barnes prominently emphasizes, because he has seen a surgeon pull at the arm and fail to extract the child. Sometimes the neck is tightly grasped by the uterine wound. If the constriction does not soon yield, it is better, says Scanzoni, to extend the incision than to drag overmuch, lest the wound be torn.

When the child and placenta are removed, attention is required to watch the bleeding; this generally takes place from the cut sinuses in the uterine walls, less frequently from the inner surface from which the placenta has been separated. Hemorrhage is best checked by direct compression of the uterus with the hand; if the uterus contract well, the hemorrhage ceases. Ice may be applied to the wound, and a piece placed in the uterine cavity.

Before closing the wound, thrust the probang through the os uteri and vagina, to make sure that the natural passages are clear for the discharges from the uterus.

The Closure of the Wound.—When the bleeding has ceased, and any blood that may have found its way into the abdomen is removed, we have to consider the question of applying sutures to the uterine wound. It is a matter of observation that in many fatal cases the edges of this wound have been found flaccid and gaping. But in the majority of, if not in all, these cases the operation had been performed on women exhausted by protracted labor; and, on the other hand, in women operated upon at a selected time, when the powers are unimpaired, the uterus commonly contracts well. Winckel says he has never lost a case from hemorrhage, and has not stitched the uterine wound. Mr. Spencer Wells has had a successful case in which he used a long piece of silk as an uninterrupted suture, leaving one end hanging out through the cervix and vagina. By pulling on this end the suture was removed after several days.

Another mode of suture would be to carry the same suture through the

uterine and the abdominal walls, so as to secure adhesion between the two parts. A serious source of danger is from vomiting: the straining and relaxation attending this accident tend to promote the opening of both wounds, and to force the discharges through them. This risk would be lessened by uterine sutures. Upon the whole the case may be stated thus: If the patient is operated upon at a selected time, if the danger of vomiting is lessened by not taking chloroform, and if the uterus contracts well during the operation, the sutures may be dispensed with; but under the opposite circumstances, it would be better to stitch the uterus as was done in Mr. Spencer Wells' case.

Closure of the Abdominal Wound.—The methods adopted in ovariectomy may be followed. Dr. Barnes is inclined to prefer the uninterrupted silk suture. Winckel's cases were closed by the more common method of interrupted sutures, with intermediate skin sutures. The important point is to close the wound completely.

After-treatment.—A full dose of opium should be given immediately, either in form of pill or suppository. Light nourishment and perfect repose are the things to be observed. The dressings should not be removed for five or six days. To obviate foulness, sprinkling with Condy's fluid or weak carbolic acid may be resorted to. The sutures may be removed on the seventh or eighth day. The bowels may be relieved by enema on the fourth or fifth day.

ART. 239.—*The Cæsarian Section; the Dangers of the Operation and Prognosis.*

By ROBERT BARNES, M.D.

(*Medical Times and Gazette*, December 26, 1868.)

"The principal risks run are as follows:—

"1. If the operation is performed as the last resource after protracted attempts to deliver by other means, the woman is liable to sink from shock and exhaustion within a few hours; or if she survive beyond a few hours, there is the risk of hemorrhage, of peritonitis, and of puerperal fever. It may be said that the prospect of recovery, when the operation is performed under these circumstances, is very small.

"2. If the operation is performed at a selected time, the woman escapes the shock attendant upon the protracted labor, and encounters the shock of the operation with unimpaired strength. Still, the shock is very great, and is not seldom fatal *per se*. This is the first and most pressing danger. Could it be in any way modified or controlled, the Cæsarian section might be undertaken with more confidence. But shock necessarily attends all severe abdominal injury. It affects different persons in different degrees. Nor can we readily predicate of any given person that she will bear shock well or badly. It is an uncertain element, and must probably ever perplex all calculation as to the result of the Cæsarian section in any particular case. I do not think that chloroform materially lessens the shock; and it adds the danger of vomiting.

"3. The next danger is *hemorrhage*; and as hemorrhage is often associated with prostration as cause and as effect, the danger is serious. This may come on within a few hours. It might be expected that hemorrhage would be liable to come from the inner uterine surface, as after ordinary labor, but the more common source is probably from the sinuses divided in the uterine wound. The quantity lost may be enough to cause a fatal anemia. But the more common evil is from the irritation caused by the blood collecting in the abdominal cavity giving rise to—

"4. *Secondary shock and peritonitis.* That secondary shock precedes peritonitis I have no doubt. Intense pain, even tenderness on pressure, rapid small pulse, accelerated and impeded breathing, suggest the diagnosis of peritonitis; but if at this stage the patient die and is examined, probably no trace of peritonitis, as revealed by redness or effusion, is discovered. Peritonitis may come on the day following the operation. It may be met by fomentations to the abdomen, by opiate suppositories; and the prostration soon ensuing must be

combated with wine, brandy, beef-tea, chicken-broth. Salines are often useful, especially at first.

"5. If the patient escapes the preceding dangers, there is still the risk of septic infection, of *septicæmic puerperal fever*. The source of this is the absorption of septic matter from the cavity of the womb or from the edges of the wound; or it may arise from general blood-dyscrasia resulting from the accumulation in the circulation of effete matters which the excreting organs are unable to dispose of.

"6. In addition to the dangers incident to the operation and to the puerperal state, there is the danger inherent to the disease which rendered the operation necessary, liable in some cases, as in cancer, to be aggravated by the operation, which may accelerate the fatal issue.

"Winckel says that osteomalacia is much more unfavorable than rickets in connection with Cæsarian section. Still, osteomalacic patients bear wounds well, and the power of repair is often great.

"The uterus often contracts adhesions with the abdominal wall during repair. These adhesions do not appear to entail any serious inconvenience; and should pregnancy again occur, and the Cæsarian section be again necessary, they render the operation less dangerous. The peritoneal cavity is shut off; the incision through the abdominal wall leads directly through the adhesions to the uterus. Thus the dangers of hemorrhage, of effusions into the abdomen, are eliminated, and it is even probable that the shock is less. On the other hand, no adhesions may be found, and the wound in the uterus heals so completely that years after no trace of cicatrix is found (Radford).

"Several cases are now known in which the Cæsarian section has been performed twice, thrice, and even four times on the same woman.

"These cases of repeated success would seem to indicate a special tolerance of severe injury in the subjects, and cannot wisely be taken as evidence, absolute or cumulative and statistical, in reduction of the danger of the operation. This is further illustrated in the following history: Dr. Freericks (*Nederl. Tijdschr. v. Geneeskunde*, 1858) performed the section on account of contracted pelvis. Mother and child recovered. When again pregnant, premature labor was induced about the eighth month. When labor had begun, collapse set in; the uterus had ruptured. The child was removed from the abdomen by gastrotomy. Vomiting caused extrusion of the intestines. To effect reposition, numerous pricks were made in them, to let gas escape, without effect until an incision was made with a bistoury, and much thin pappy matter was evacuated. The intestines were then replaced, and the wound was closed. She recovered completely. How many women would be as tolerant?"

ART. 240.—*Studies on Gastro-hysterotomy.*

By GIUSEPPE TESTA, M.D.

(*Analysis in the Annali Univ. di Medicina*, 1868; and *British and Foreign Med.-Chir. Review*, January.)

In an elaborate work on the Cæsarian section, Dr. Testa discusses the history, statistics, and other points; and especially investigates the following: In some cases the wound in the uterus is found, after death, gaping, in others closed. Testa set himself to discover upon what this difference depended. He minutely examined the muscular structure of the uterus. He found that when the incision is so made as to fall in the line of direction of the fibres, the lips of the wound will be maintained in apposition; but that when the wound cuts across all the layers of muscles, gaping must follow. The gaping will be the greater, the longer the fibres are which are divided; and will increase with the uterine contractions; and since the external muscular fasciculi are longer than the internal, it is clear that the retraction of the first will predominate, and cause the divergence of the margins of the wound. Thus he observes that when the incision fell upon the fundus, cutting the transverse and oblique fibres proceeding from the Fallopian tubes, the wound gaped, owing to the retraction of these

fibres towards their points of origin. And when the incision was made transversely from one of the sides, so as to spare the longitudinal fibres of the tubes, the edges of the wound could be drawn together. In the lower third of the uterus, wounds made in the direction of the long axis, would present the margins in contact, the longitudinal fibres being spared; but since the neck becomes distended and relaxed during the latter months of pregnancy, it follows that the borders of the wound are kept apart by the divided and stronger transverse fibres. The gaping would be greater if the incision was oblique, so as to divide all the orders of fibres. It is true that the anatomical structure of the middle third is the same as that of the lower third, but at this point the longitudinal fibres not having suffered distension, and preserving their tonicity, are fit to maintain in contact the margins of wounds made according to their direction.

In the application of these researches follows, 1. Incisions in the uterus made in the axis of the body, in the upper third, remaining open, give rise to escape of lochia into the abdominal cavity, setting up peritonitis. 2. This may be avoided by making the incision transverse and lateral, but this is to be avoided on account of the risk of dividing large vessels. 3. Oblique and longitudinal incisions in the lower third equally dispose to effusions and peritonitis. 4. Testa recommends to make the incision transversely, and on one side, a little above or below the insertion of the tube, so as to avoid an order of fibres (the longitudinal of a tube before they become oblique) and thus avoiding all obstacle to the approach and union of the lips of the wound. He relates that Dr. Cocchi, of Rome, having followed this advice, saved mother and child. Dr. Testa then examines the various modes of applying sutures to the incised uterus. He objects to most of those proposed, and suggests one of his own. It consists in inserting two long needles at the level of the upper angle of the incision, at a distance of four lines from it, from without inwards through the abdominal parietes; then in making each needle penetrate the thickness of the corresponding lip of the uterine wound throughout its whole length, and always at the same distance from the margin; this done the needles are brought out from within outwards, at the level of the lower angle of the wound. Care must be taken not to pierce into the cavity of the womb. Then a thread is twisted round the upper ends of the needles, and another round the lower ends; the rigidity of the needles suffices to keep the edges both of the abdominal and uterine wounds in apposition. Then straps of adhesive plaster are applied. Thus parallelism is preserved between the wounds; the escape of matter into the peritoneum is avoided; and the protrusion of intestines is prevented.

ART. 241.—*Mechanism of the Fall of the Umbilical Cord.*

By M. DE LIGNEROLLES.

(*Thèse de Paris*, 1869; *Archives Générales de Médecine*, No. 3. 1869.)

M. Lignerolles gives the following as the results of his researches on the detachment of the umbilical cord:—

The detachment of the cord takes place in consequence of a process of elimination identical with that of gangrene.

The separation occurs at the level of the summit of the cutaneous prolongation, that is to say, some few millimetres from the abdominal wall. It always takes place at this point, whether there be a hernia or not, because it is here that the vessels of the fibrous ring and of the integument turn back without passing into Warton's membrane, which, as has been admitted by Virchow, is entirely deprived of bloodvessels.

Detachment also takes place at this point, because at this level the vasa vasorum of the umbilical veins are arrested. Further on, that is to say, in the cord, these vasa vasorum are entirely absent.

The retracted portion of the cutaneous prolongation becomes invaginated, and tends more and more to form a plug to the umbilical fibrous ring, in consequence of the incessant refraction of the umbilical veins which adhere to the

circumference of this prolongation. This cutaneous plug and also the plastic lymph which, produced at the time of the elimination of the cord, combines its elements, are the two agents of the occlusion of the umbilical opening.

The mucous tissue of the cord presents but one band of vessels—the lymphatics, which take their origin from the surface of the enveloping membrane, but whose terminations have not yet been described.

The semicircular fibres, to which Prof. Richet gives the name of umbilical sphincter, play but a very subordinate part in the detachment of the cord; their principal use seems to be that of strengthening the ring of the umbilicus.

ART. 242.—*Injectons of Morphia in the Pains and After-pains of Labor.*

By ERNEST KORMAN, M.D.

(*The Practitioner*, November, 1868.)

Dr. Ernest Kormann read a paper on this subject before the *Gesellschaft für Geburtshilfe*, at Leipzig, which gives very interesting results as obtained by this treatment. The author does not in the least hesitate to inject morphia for the relief of labor-pains, when they are severe, especially in primiparæ, and also in those subjects who have contracted pelvis. He employs a solution of the sulphate of morphia, three grains to the drachm; it does not require any acidulation to keep the salt dissolved. He gives from one to three injections during the course of a labor; usually only one, however. The doses employed range from about $\frac{1}{4}$ to $\frac{3}{4}$ grain, and he has never had reason to think they did harm. They do not appear to interfere with the steady progress of the labor, though they often reduce the frequency of uterine contractions, when these have been what English people call "niggling." He thinks that they may be used either during the dilating or the expulsive stage of the labor; the former process they often actively aid. It is a remarkable though intelligible fact, that patients who have been injected during labor seldom have *after-pains*; but when the latter have occurred, injection is a most useful and valuable agent in procuring that repose which is so necessary to restore the woman's strength after the fatigues of parturition. The locality which Kormann selects for injection is always the thigh. Besides the above general uses of the injection in parturient women, painful complications, and especially *cramps* of the muscles of the extremities, may be most effectively treated by this method.

ART. 243.—*Expulsion of a Fibrous Tumor after Parturition.*

(*Gazette Hebdomadaire*, No. 23, 1868.)

The following report of an interesting case observed by M. Falin was communicated to the Société Impériale de Chirurgie by M. Depaul:—

A woman, thirty years of age, who had already had three children, arrived at the end of her fourth pregnancy on April the 15th, 1868. On this day she had some pains, and on the following morning the labor commenced. The woman was delivered without assistance of a male child. M. Falin attended a few hours afterwards, and as the woman always lost with her labors some blood, he introduced his hand into the uterus with the intention of removing any blood clots. He then felt a hard and evidently voluminous tumor, to extract which vain efforts were made. In a short time the os uteri closed, the hemorrhage diminished, and was replaced by slightly fetid lochial discharge. The patient had almost completely recovered, when four days after the labor a tumor projected between the labia majora. This tumor was of the size of the wrist, and oval in shape. M. Falin considered it to be a fibrous tumor, and extracted it. Its surface was smooth and without a pedicle; at some points a few linear anfractuosités could be seen.

M. Depaul doubted the correctness of M. Falin's diagnosis. The expelled tumor was of a rosy color, and contained a great number of filaments of cellular

tissue. When divided along its great axis it presented in its interior two cavities, each of which inclosed a spherical body; one of these bodies was movable, and suspended in a reddish fluid; no traces of vessels were perceived in the tumor. It was thought at first by M. Depaul that this tumor might represent a foetal monstrosity, and one of that kind which is characterized by a cutaneous covering forming a pouch, in which one meets with *débris* of various organs—osseous fragments, portions of the digestive tube, &c. As the microscope alone could clear up this point, the tumor was examined by M. Robin, who recognized it as a typical fibrous body, multilocular, composed for the most part of smooth muscular fibres, with partitions formed of connective tissue. The product, then, had not a foetal origin.

M. Depaul states that when a similar mass to the one just described is expelled after parturition it should be examined with care. He has observed an anide monstrosity which bore very great analogy to the fibrous body removed by M. Falin. But foetal monstrosities of this kind nearly always have an umbilicus, and contain in their interior osseous or cartilaginous fragments. They are generally expelled after labor, and thus constitute, with the infant, a twin pregnancy. Cases of fibrous tumors projecting into the uterine cavity are not very rare, but as a general rule they are not expelled after labor. In M. Falin's case the fibrous tumor had probably undergone hypertrophy during pregnancy, and afterwards, when the labor was over, became enucleated, either spontaneously or in consequence of the attempts at extraction made by the accoucheur. The absence of a pedicle shows that the tumor was not a polypoid growth. Fibrous tumors in connection with labor have been studied by Hauregard, who published nine cases in Malgaigne's journal. M. Danyau also observed a case in which a polypoid growth from the anterior lip made its appearance at the vulva seven hours after delivery, and was excised.

ART. 244.—*On the Value of Perchloride of Iron in Post-partum Hemorrhage.*

By HUGH NORRIS, L.R.C.P. Edin.

(*British Medical Journal*, April 10.)

Mr. Norris's experience of this drug has led him to the following conclusions:—

1. We possess no topical styptic in efficacy at all approaching the perchloride of iron; its effects being certain, perfect, and instantaneous.
2. In *post-partum* hemorrhages, a solution of this salt applied in the form of an intra-uterine injection, is of the utmost value both in immediately arresting the flow of blood, and in also causing a permanent contraction of the recently emptied uterus.
3. Its presence in the cavity of the uterus, *post-partum*, is not merely not injurious, but, on the contrary, from its well-known antiseptic properties, may frequently be productive of positive benefit in more ways than one.

ART. 245.—*On Cephalotripsy.*

By ROBERT BARNES, M.D. Lond.

(*Medical Times and Gazette*, November 14, 1868.)

"*The powers of the cephalotribe.*—The all-essential point is that it shall be able to compress and even to crush down the base of the skull. A secondary property which it is desirable to possess is that of holding during extraction. The crushing power can be attained in sufficient perfection, and with a gain in the facility of handling, if the instrument be made much less formidable in bulk than are most of the Continental cephalotribes. Three good modifications have been constructed here. Sir James Simpson's is the best known. He insists upon a pelvic curve in the blades as being less likely to slip than straight

blades. Dr. Kidd's, of Dublin, is the best type of a straight-bladed cephalotribe. Dr. Kidd insists strongly upon the advantages of long straight blades on the following three grounds: First, straight blades admit better of the head being rotated whilst in the grasp; secondly, they are easier to introduce; and lastly, they hold more securely. Dr. Braxton Hicks has modified Sir James Simson's cephalotribe, producing a very handy and efficient instrument. He preserves a moderate pelvic curve and adapts a very convenient screw to the handles as a crushing power. I believe that to seize a head above the brim, as is necessarily the case where crushing is required, the blades should be curved; but this curve should be moderate, otherwise the inconvenience in rotating or shifting the relation of the instrument to the pelvis referred to by Dr. Kidd will be felt.

"When the instrument is applied to the perforated head, it may be made to completely crush the base, flattening the head sideways, or doubling up the base; or, by the slipping of one of the blades inwards a little, the base is tilted edgewise, and the skull is flattened by the pressing inwards on to the base of the squamous and parietal bones. Under either of these proceedings the head can be so flattened as to allow the blades to meet, and as the instrument then measures 'only 1.50"', the obstacle is reduced to that degree. It is generally desirable to repeat the crushing, which is done by taking a fresh hold in a different direction, and then compressing again. Two crushings will generally be enough.

"A distinctive advantage of the cephalotribe was pointed out by Curchod (Berlin, 1842). It is that the plasticity effected by crushing so modified the form of the head that it was easily moulded to the form of the pelvic brim.

"1. What are the limits of application of the cephalotribe? The maximum of course is not difficult to determine. It may be usefully employed in almost any case of minor disproportion. But what is the least amount of space admitting of its use? This must depend somewhat upon the form and size of the particular model adopted. In a discussion held at Berlin the majority of the speakers thought a minimum of 54 mm. = 2.0" conjugate diameter was necessary. Lauth says the application begins at 8 mm., or about three inches, at which point the forceps and turning are not available, and ends at 5.0 mm., or a little under 2.0". But Pajot goes beyond this, and contends that it ought to be applied where there is only 1.25" conjugate diameter. Credé thinks it should be used if only there is room enough to apply it. In this I am disposed to coincide.

"Other conditions are—

"2. The os uteri must be sufficiently dilated, but this can be readily effected by the caoutchouc water-bags.

"The head must be previously perforated. Abroad sometimes the ordinary forceps is put on to hold the head during perforation; but this is sometimes not feasible for want of room, and is never necessary, since, by means of external pressure and a good perforator, this operation is not difficult.

"Position.—The patient may lie on her left side, as in other obstetric operations.

"Operation.—The rules laid down for the long forceps will generally apply to the application of the blades, and it is equally unnecessary in either case to have an assistant or a 'third hand.' The lower or posterior blade is passed first, guided well by the left hand passed well into the pelvis if possible. This blade is passed along the hollow of the sacrum until the point approaches the brim and touches the head-globe, when the handle is raised and the point, turning into the left ilium or to the left sacro-iliac synchondrosis, travels over the head. It is passed high up, for the point of the instrument must get beyond the base of the skull. This being *in situ*, the second or anterior blade is introduced also at first in the hollow of the sacrum crossing the handle of the first blade. When the point approaches the brim, the handle is lowered and carried backwards, and the point rises over the head-globe into the right ilium, or opposite the right cotyloid cavity, when it falls into opposition with the first blade. Being locked, the screw is turned slowly and steadily, the hand in the vagina taking note of the work done. If spicula crop out of the scalp, they should be picked

away by the fingers. When the base is crushed in the direction first seized, you may, if the instrument hold, use it as a tractor. If there be any marked resistance, it is better to take off the blades, to reapply them in the opposite oblique diameter and repeat the crushing; then, by rotating the head by turning the handles, you may find that the head is better adapted to the brim, and will come through. But you must be prepared to find the cephalotribe fail as a tractor. It is made to crush, and if it has done this well, it has done good service. I have, however, found Dr. Hicks's instrument hold perfectly. Extraction may be completed by the crotchet or by the craniotomy-forceps, or by turning. The late Professor Davis did not use the cephalotribe, but in extreme cases he cut away the head piecemeal by his osteotomists, and seized and extracted the trunk by a double sharp body-crotchet.

"Pajot of Paris has practised a method analogous to that formerly employed in this country in craniotomy. He performs what he describes as '*cephalotripsie répétée sans tractions*'—that is, he first crushes the base by one operation; he then gently tries to effect a slight rotation of the instrument so as to bring the crushed sides of the head into relation with the contracted diameter. If there is any resistance, he desists, and leaves the case for two or three hours for the uterus to mould the crushed head to the brim. He then repeats the crushing, and again gives two or three hours to nature. One or two crushings suffice for the trunk. (See also *Osservazioni di Cefalotriessia*, by Dr. Chiara, Turin, 1867, for a good case in illustration.) Pajot places this method in distinct competition with the Cæsarian section. The cases related by Pajot lend weight to his recommendation; but I cannot help thinking that the operation may and ought to be finished at one sitting.

"When the head is extracted, there may be some trouble with the shoulders and trunk. The shoulders will generally be disposed obliquely in the brim—that is, one will be anterior to the other. By keeping up traction on the head backwards, this anterior shoulder will be brought a little down, so that a finger or the blunt hook or crotchet can be fixed in the axilla to pull it through. When this is done, the head is dragged down forwards, so as to enable the same manœuvre to be repeated with the posterior arm. If this cannot be readily done, it is a good plan to crush in with the cephalotribe. Dr. Davis seized the trunk with his double body-crotchet. If turning had been practised after perforating or cephalotripsy, the arms fall in upon the crushed head and offer no obstruction.

"To save the assistants the ghastly sight of the mangled head, wrap a napkin round it as soon as it is born. If traction is necessary in delivering the trunk, it is easier to hold when so treated."

ART. 246.—On certain Dangers which attend the Operation of Craniotomy.

By ROBERT BARNES, M.D. Lond.

(*Medical Times and Gazette*, November 14, 1868.)

"Certain dangers attend the operation of craniotomy. What are these?

"Certain injuries may be inflicted upon or result to the mother.

"1. The perforator has been known to strike the promontory of the sacrum or to lacerate the cervix uteri.

"2. Spicula of cranial bones, resulting from perforation, may scratch or tear the soft parts.

"3. The crotchet may slip and lacerate the soft parts.

"The above of course may be avoided with care.

"4. But serious evil is likely to result from deferring the operation too long—i.e., until after exhaustion has set in—and under a too protracted operation in an unsuitable case. Long continued dragging of the head upon a brim which it cannot pass, jamming the soft parts more especially at the two points of greatest projection, the promontory and the symphysis, ends by stopping the circulation in the parts compressed, bruising them, actually grinding through

them. In this way, after severe operations, it has been found that a large hole has been made through the posterior cervix uteri. Such injury, added to the shock and exhaustion of the system, may be fatal.

"5. If the immediate injury above described do not occur, the long-continued pressure may cause mortification of a limited portion of the neck of the uterus. Thus, in the course of a few days, a slough is formed between the vagina and bladder resulting in vesico-vaginal fistula. Dr. F. H. Ramsbotham said (*Medical Times and Gazette*, 1862) that 'in almost all the cases which he had seen of a fistulous opening into the neck of the bladder consequent on labor the child had been putrid, and he attributed the slough more to contact with the putrid head than to simple pressure on the part.' However this may be, I am very certain that simple pressure, especially if bearing upon a limited spot, is enough to cause the accident; and I have quite recently seen a case of recto-vaginal fistula ensuing on the birth of a living child delivered by the natural powers.

"In the possibility of attendant danger, craniotomy differs essentially from the forceps. Whilst under craniotomy mischief or death may ensue, the forceps, if used rightly and in suitable cases, is an innocuous instrument. Statistics, professing to show that the mortality from the use of the forceps is at the rate of one in twenty, are flagrant examples of the fallacy of arguing 'post hoc, ergo propter hoc.' Properly speaking, the mortality from the forceps is *nil*. Women die because the instrument is used too late."

ART. 247.—*On Rupture of the Uterus during Labor.*

By M. J. JOLLY.

(*Archives Générales de Médecine*, November, 1868.)

M. Jolly in this article gives the clinical history of twenty-six cases, and states in conclusion that the cessation of uterine contractions does not take place so constantly after the rupture of the womb as the authors of modern treatises on obstetrics seem to think. Without speaking of cases in which after the occurrence of rupture some occasional irregular and feeble pains are observed, there is still a certain number of facts which show that the uterus often maintains its energy and continues to fulfil its functions until the termination, whether natural or artificial, of the labor.

This circumstance should, and does in fact, render the diagnosis more difficult, and imposes upon the practitioner the necessity of the greatest attention.

Finally, in some cases the diagnosis will be aided by the presence (scarcely alluded to by authors) of tumors, having a special character, and perfectly recognizable both by sight and touch. These tumors are due to effusions under the peritoneum or between the two layers of the broad ligaments of blood, either pure or mixed with air, and occupying either the hypogastric region or one or other of the iliac fossæ.

ART. 248.—*On the Introduction of Air into the Uterine Veins.*

By JULIUS M. KLOB, M.D.

(American Translation of *The Pathological Anatomy of the Female Sexual Organs*, 1868. Moorehead, Simpson, and Bond, New York.)

"The statement of Cormack that the uterus, when relapsing into a relaxed condition after contraction, absorbs a considerable amount of air unless the open extremities of the veins be closed by coagula, and that the air thus absorbed is afterwards forced through the veins by renewed contraction of the organ, is founded on the erroneous supposition that relaxation of the uterus may cause the walls of the veins which were formerly in apposition to be again separated. If the first contraction which closes the veins could be overcome by other antagonistic contractions, the effect of which would open the veins; if muscular fibres existed analogous to the radial and circular fibres of the iris, then entrance of air would be inevitable; but upon the cessation of that uterine

contraction which causes the walls of the veins to come together, they possessing too little elasticity, cannot, like a rubber tube, reassume the shape of open vessels. I have not yet seen a case which convinced me that air had passed into the open veins of a recently delivered uterus, and I cannot conceive the mechanical possibility of such an occurrence. Lionet, Lever, and Simpson assert that they have observed such cases, and further remark, that the occurrence was immediately followed by a scarlatinous discoloration of the skin, which may be explained as the effect of sudden oxidation of the blood contained in the capillaries of the skin. Without wishing to lessen the authority of Simpson, it is impossible not to advance the question, Whether this was not a case of Helm's *puerperal scarlatina*, with rapid putrescence and development of putrescent gases in the blood?"

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 249.—*On the Treatment of Imperforate Hymen.*

By Dr. COPEMAN.

(*British Medical Journal*, January 9.)

At a meeting of the Obstetrical Society of London, held Dec. 2d, 1868, Dr. Copeman read a paper on the Treatment of Imperforate Hymen, with Retained Menstrual Fluid. After referring to the question of the diagnosis of these cases, the author proceeded to consider the various plans of treatment advocated, and alluded to the fact that he was one of the earliest writers to recommend the gradual evacuation of the fluid contents of the vagina and uterus. Full particulars were then given of an interesting case in which, in spite of this treatment being adopted, and every precaution used, a severe attack of peritonitis followed the operation; the patient, however, ultimately recovering.

Dr. Barnes observed that the crisis of intolerance caused by the accumulation of fluid in the uterine cavity was postponed by two partially compensating conditions. The watery part of the menstrual blood was absorbed; and after the uterus had been distended by the fluid, a supplementary receptacle was made by the dilatation of the vagina. The pouch formed in the vagina was often very large, and might be mistaken for the uterus itself. He had, some months ago, removed by the wire *écraseur* the vaginal portion of an uterus affected by cauliflower excrescence. The removal was complete and recovery rapid. The woman left the hospital before sufficient means had been taken to preserve the cervix open. She returned with symptoms of retained menses. The closed cervix was opened up with much difficulty, and a quantity of fluid escaped. She again went out, to return after a time with similar symptoms. An opening was again made, by this time severe pelvi-peritonitis followed, from which the patient was but now recovering. He did not gather from the author's paper that any distinct opinion was expressed as to the causes of the danger and mortality which often followed these operations. In some cases the cause seemed to be, that the uterus, suddenly collapsing concentrically, tended to expel its contents by all the openings into it, and that thus some of the fluid was passed out through the Fallopian tubes into the peritoneum, setting up inflammation.

Dr. Tyler Smith would insist on pressure on the abdomen as the chief means of averting risk. In these cases the uterus was distended rather than developed; and on the withdrawal of the fluid, it did not contract as it did after parturition. He believed that the danger was caused by the entry of air into flaccid uterus. This caused decomposition, and led, in the first instance, to metritis and then to peritonitis. Similar mischief sometimes occurred from the entrance of air into ovarian cysts after tapping. The evacuation of the uterus and vagina by a small trocar had long been practised, but to do it *guttatim* when the uterus was large would be interminable. His own plan was to make a moderate opening, and to keep up firm and steady pressure on the abdomen

by bandaging as the fluid escaped, so as to prevent the entrance of air into the uterus.

Dr. Routh had proved by the kinometer that the vagina during inspiration had a power to expel any air or other contents, and during expiration these were drawn up. Any opening made into the vagina would, when the excess of fluid had escaped, allow the gradual sucking up of air and putrefaction of the contents. This occurred in cases of cellular abscess pointing into and opened *per vaginam*. In both cases he preferred an opening *per rectum*. The hymen might be subsequently divided when the uterus had well contracted and all fear of septicæmia was at an end. As a preliminary measure, Dr. Routh advocated the use of ergot, to be followed by the application of a bandage. When the opening had been made *per vaginam*, if the uterine contents became offensive, the whole should be evacuated as speedily as possible, and the interior washed out with some disinfectant fluid.

Dr. Rasch could not approve of evacuating the retained menstria through the rectum, as a second operation would have to follow to open the hymen. He was convinced that no air entered the vagina of a woman on her back, as there was no natural power to overcome the close apposition of the vaginal walls; while, in the lateral position, and much more so when the patient rested on her knees and elbows, air certainly entered.

Dr. Alfred Hall related a case of retained menstruation from imperforate hymen which occurred in his practice two years ago. The patient was in her nineteenth year. He made a tolerably large opening through the membrane, and after the escape of a considerable quantity of fluid he washed out the vagina with warm water. The case had done perfectly well, and at the end of three months the catamenia came on naturally.

Dr. Wynn Williams said, that the occasional fatal results of operation in these cases were undoubtedly due to septicæmia from the absorption of putrid animal matter. The remedy was the free use of disinfectants. He preferred tincture of iodine, which, as he had proved, rendered inert the poisonous emanations of decomposing animal matter. He thought too much stress had been laid upon the entrance of air into the vagina; all collections of matter inside the pelvis were nearly always offensive.

Dr. Phillips believed that the immediate danger in these cases was of acute peritonitis, caused probably by the escape of some of the uterine contents into the cavity of the abdomen, even after a free external opening had been made. In the only fatal case which he had seen, death resulted from this cause in a few days. On a post-mortem examination the peritoneum was found to contain a quantity of grumous fluid, with which also the Fallopian tubes were greatly distended.

Dr. Barnes said that, with reference to the question of opening into the uterus *per rectum*, he must remind Dr. Routh that there was always air in the rectum retained by the sphincter.

Dr. Arthur Edis referred to a case in which, there being no vagina, the puncture was made *per rectum* with an ordinary curved trocar, the canula being allowed to remain in; and through it much treacly fluid continued to flow for two days, when it ceased; pelvic pain and constitutional symptoms then ensued. A violent paroxysm of pain on the fourth day terminated by more than a pint of the same treacly fluid being suddenly discharged *per rectum*, after which the patient was easier. On the eighth day the canula was removed. At the end of five weeks the uterus was again punctured *per rectum*, and the canula retained in position for four days. Two months after her admission, by her own wish, she left the hospital, and within a few weeks she died. From the constitutional symptoms in this case, it was fair to conclude that air had gained access to the uterus through the puncture.

Dr. Routh believed the cause of the fatal result in this case was that the canula was left projecting from the rectum. The moment fluid ceased to flow from it, it should be withdrawn.

The president, after giving details of a case similar to Dr. Hall's, expressed his opinion that a firm bandage with compress should always be applied around the hypogastrium before the opening was made, and gradually tightened as the

fluid escaped. Of the utility of disinfecting injections, he had a high opinion. With regard to the proposal to discharge the retained fluid by an opening *per rectum*, he thought that the results of the operation were not in its favor.

ART. 250.—*On the Treatment of Pruritus of the Vulva.*

By M. NOEL GUENEAU DE MUSSY.

(*Gazette des Hôpitaux*, No. 120, 1868.)

Pruritus of the vulva may be acute, subacute, or chronic.

Acute nervous pruritus should be treated by emollient and starchy washes, to which may be added a decoction of poppy heads or an infusion of laurel leaves. Cataplasms containing rice or starch, lotions of an infusion of belladonna or aconite, and douches of pulverized emollient and narcotic solutions will be found useful.

Applications in cases of extreme sensibility of the affected parts: Solution of bromide of potassium, powdered rice, and belladonna root, a pomade of glycerine and starch, with or without the addition of bromide of potassium and sometimes with tannic acid, will frequently succeed in relieving nervous pruritus in cases where hyperæsthesia of the vulva coexists.

Zandry instituted the practice of cauterizing the inner surfaces of the nymphæ with a pencil of nitrate of silver; and he has stated that the hysterical affections associated with hyperæsthesia of the genitals, frequently disappear or become modified under the influence of this treatment.

It is very necessary to combine with local applications a general treatment of the neuropathic condition, by recommending a course of certain mineral waters, as those of Nérès, Luxeuil, Pfeffers, or Ussat; and particularly by looking after the physical and moral conditions of hygiene.

In the herpetoid or acute eruptive forms of pruritus, the majority of the means just indicated may be prescribed with advantage. After cessation of the more acute symptoms, infusions of camomile flowers may be added.

As a general rule tepid, or even hot, lotions answer better than cold lotions. The latter give temporary relief but excite a painful reaction.

The subacute form of pruritus may succeed to the preceding form or present itself at once. Warm soothing lotions will give relief in these cases; but lotions containing a weak solution of corrosive sublimate, or in some instances alkaline solutions, are of great service in the dry forms; glycerine ointment will often relieve a temporary exacerbation of scalding; one may add to the glycerine in certain cases calomel, extract of belladonna, tannic acid, or benzoïn. In the subacute form mercurials are most frequently indicated and generally efficacious.

If the pruriginous lesions extend to the vagina, and if this gives exit to morbid secretions, it will be necessary, after an examination of the uterus and after fulfilling the immediate indications which may result from this examination, to inject sometimes simple soothing and resolvent lotions with the addition of decoction of poppy heads, infusion of aconite, infusion of camomile flowers, or borax. In addition it will be beneficial to introduce daily into the vagina, and to leave there for some hours, a small roll of wadding saturated with glycerine.

The chronic form requires the same topical treatment, but handled more freely; the irritability of the parts is reduced, and the affected integument is less sensitive to the action of modifying agents. Sulphurous baths, which are dangerous in the preceding forms, may now be employed with advantage. M. Noel de Mussy's experience has convinced him of the utility of sulphurous solutions in a great number of chronic affections of the skin. They modify the nutrition and secretion of the integument, and at the same time stimulate it; and are often indicated in chronic and sometimes even in subacute forms of cutaneous affections which are not very irritable, whatever may be their diathetic origin, so long as there is no contra-indication to their employment.

Mercury will often prove very efficacious in the chronic forms of pruritus.

The affections grouped by Dr. Bazin under the names of herpetides and arthritides, may undoubtedly be cured by mercurial applications without one being able to declare, from the fact of the cure, any presumption of a syphilitic origin. Generally, in the dermatoses of the vulva, solutions of mercury are preferable to pomades; the latter, however, are useful in certain cases. M. Noel de Mussy has derived benefit from pomades of calomel and belladonna.

A solution of corrosive sublimate (50 centigrammes to 500 grammes of water), mixed with a very hot decoction of poppy-heads, has given very good results in M. de Mussy's practice.

M. Noel de Mussy does not fail to give pre-eminence to internal treatment, which ought to accompany and even precede external applications. Most frequently, in order to prevent the metastases which too often follow the suppression of an inveterate morbid localization, the local treatment is not commenced before the organism has been subjected for two or three weeks to general modifying remedies which may subdue the constitutional diathetic substratum of the local lesion.

In this important part of the treatment, hygiene occupies the first place: pure air, a restorative but non-stimulating régime; an avoidance of all moral and physical excitement which may increase the cutaneous lesion; next come those modifying agents of nutrition which are considered as depurative; the juices of bitter vegetables combined with appreciable quantities of sulphur and iodide of potassium. To these may be added more energetic modifying agents, as arsenic in small doses, or the mineral water of La Bourboule, which contains from 8 to 15 milligrammes of arsenite of soda in the litre, associated with 4 grammes of chloride of sodium and 2 grammes of the bicarbonate of soda, a happy combination, which modifies powerfully the nutrition and the quality of the blood, and is not less useful in the scrofulides than in a great number of the herpetides where the tone of the system requires raising, and useful also in some cases of arthritic disorders. To elevate or maintain the nutritive action is an indication which is present in all chronic diseases. Alkalies may also be added with advantage, and if the cutaneous eruption be set up in consequence of an excess of uric acid in the blood, the solid salts may fulfil a chemical indication which it is well to consider.

In pruritus due to vulvitis in young girls, tonics and sulphuro-alkaline baths will often be useful. M. de Mussy has often brushed over the parts a solution of nitrate of silver, and after the cessation of the acute stage, applied lotions of sulphate of zinc, alum, or compounds of tannin. With pregnant women the pruritus sometimes persists even after delivery. Cataplasms made with rice starch and infusion of aconite, will often succeed in cases where all other topical remedies have miscarried.

In all cases of pruritus of the vulva, it is by the combined action of general modifying agents and of topical applications that one may hope to obtain a cure; relapses are of very frequent occurrence, and it is only by the persevering observance of hygienic precepts that one may hope to prevent them.

ART. 251.—*Uterine and Vaginal Discharges.*

By JAMES R. LANE, F.R.C.S., Senior Surgeon to the Lock, and Surgeon to St. Mary's Hospital.

(*British Medical Journal*, December 5, 1868.)

When these discharges are of purely local origin, and there is no constitutional fault, their cure may be speedily effected by local applications. The plan commonly pursued at the Lock Hospital is to make the patients use vaginal injections for themselves three or four times daily. The lotions employed are the diluted liquor plumbi subacetatis, or solutions of sulphate of zinc, alum, or tannin, in the proportion of five grains to the ounce of water. The syringes are large enough to hold six ounces of the lotion, and have a pipe long enough to reach the upper part of the vagina readily. Both these points are important, for the syringes commonly used will not contain sufficient fluid to wash out the canal effectually, and the pipe affixed to them will not admit of its reaching the

upper part of the vagina at all. When the vaginal mucous membrane is inflamed and tender, the house-surgeon, when the speculum is used, which is at least twice a week in all these cases, inserts a strip of lint dipped in the lead-lotion, and this is allowed to remain for three or four hours. If the inflammation be acute, the application of the strip of lint is repeated daily through a small speculum. By these means, discharges proceeding from the vagina may usually be cured in a few days, but the injections should be continued as long as any abnormal uterine secretions are observed, for the latter, if not frequently washed away, will be likely to re-excite disease in the vaginal mucous membrane.

But vaginal injections are of little or no use for the cure of discharges proceeding from the interior of the cervix uteri—a complication which is almost invariably present in these cases. In the treatment of this condition, success will depend mainly on the amount of personal care and attention afforded by the surgeon himself. At the Lock Hospital, the speculum is used twice a week in all, and three times a week in many, of these cases; and through it suitable applications are made to the os and cervix. The nitrate of silver, either solid or in solution, is the remedy most in favor, especially in the earlier stages of the treatment, and when the discharge is purulent; later, simple astringents, such as tannin alum, or perchloride of iron, are employed. Before using the caustic, all discharge should be wiped away from the os uteri with a piece of dry cotton-wool; and the plug of tenacious matter, which usually fills the cervix, should also be removed or it will prevent the remedy reaching the diseased surface. The application of a strong solution of alum coagulates this discharge, and renders its removal more easy. The stick of nitrate of silver is then inserted to the depth of about an inch into the canal of the cervix, and is also applied to any abraded or ulcerated surface which may be seen around the os; or, instead of the stick, a solution of the nitrate (a drachm to an ounce of water) may be applied by means of a piece of sponge or cotton-wool about the size of a pea, which is passed along the cervical canal with a suitable pair of forceps. Mr. Lane prefers to use the solid nitrate on the first one or two occasions, and afterwards the solution. By these means, the discharge speedily loses its yellow color, and becomes white or semi-transparent. When this result is obtained, astringent solutions, such as the milder liquor ferri perchloridi of the British Pharmacopœia, or solutions of alum or tannin (a drachm to an ounce of water), may be substituted with advantage for the nitrate of silver. The glycerinum acidi tannici, or acidi gallici, are also frequently used; but they do not appear to possess any advantage over the watery solutions.

Other methods of applying remedies to the interior of the cervix uteri have been tried, but the plan above described has been found most convenient and effectual. A very efficient mode is to inject the solutions into the cervix with a syringe; but this has the disadvantage of being sometimes followed by abdominal pains—no doubt, from the fluid penetrating too far into the body of the uterus. Mr. Lane has also used suppositories containing nitrate of silver, sulphate of copper, or alum, incorporated with cocoa-butter, in the proportion, by weight, of one part to four or five, and made into pencils of appropriate size for introduction into the cervix uteri. These answer well enough; but, on the whole, Mr. Lane is disposed to prefer aqueous to greasy applications. The essential point, whatever the substance or solution chosen, is to take care that it is effectually applied along the whole length of the canal of the cervix uteri. There is rarely any pain occasioned by the use of caustics or astringents to these parts. The patients are almost invariably quite unconscious that anything is being done.

ART. 252.—On a Peculiar Form of Vaginitis.

By Prof. H. HILDEBRANDT.

(*Monatsschrift für Geburtskunde*, August, 1868; and *Gazette Hebdomadaire*, No. 42, 1868.)

Professor Hildebrandt has had occasion to observe a form of vaginitis which, in its symptoms, progress, and termination, differs from acute or chronic catarrh of the vagina.

The characters of this affection, to which M. Hildebrandt has given the name of adhesive ulcerative vaginitis, may be briefly detailed as follows:—

The inflammation occupies the superior third of the vagina; the mucous membrane is sometimes even, smooth, and not swollen; at others it is slightly eroded, red, and sanguinolent; it is deprived of its epithelium, and reveals the papillæ in the form of delicate points; the surface of the mucous membrane readily bleeds on contact with the finger and speculum. The discharge is viscid, thick, creamy, often mixed with streaks of blood or of sanguinolent serosity, and it presents under the microscope elements of pus and of pavement epithelial cells.

The lower two-thirds of the vagina and the vestibule present a mucous membrane which is almost quite normal and rarely even slightly inflamed.

The chief characteristic of this affection is a remarkable tendency of the affected parts to unite with the vaginal portion of the cervix uteri. This adhesion may take place with such rapidity that in a short time the fundus of the vagina is entirely represented by a kind of regular arch, at the summit of which may be seen the orifice of the neck, but with no visible appearance of the cervical projection.

Professor Hildebrandt reports five cases of this form of vaginitis, and attempts to demonstrate that it differs from the varieties hitherto described. It cannot be considered as a diphtheritic process analogous to that met with in infants in the course of severe and adynamic fevers, since one does not find here diphtheritic patches or adherent exudation, but merely a simple erosion of the mucous membrane without exudative formations, and, moreover, the affection remains restricted to the upper third of the vagina. It is difficult, however, to make out the true cause of this affection. The five affected patients presented very different ages: twenty-three years, forty-eight years, forty-nine years, fifty years, seventy years; the affection seems to take on a more special character at an advanced age. All the patients had escaped the risk of contracting those uterine affections which are associated with leucorrhœa, and from the troubles of menstruation and the different actions which result in catarrh or ulcerations of the cervix. It is equally difficult to explain the intercurrent hemorrhages which had existed in the women who were the subjects of these observations, since at the ages of fifty and seventy years all menstruation had ceased; one cannot but attribute them to irritation of the eroded parts of the vagina. In one of the cases the patient complained of very acute pain, and the vagina was completely obliterated. It may be concluded that this symptom was the result of retention of products secreted by the uterus. It will perhaps be thought that this tendency to adhesion of the vagina and cervix uteri results from senile atrophy of the genitals, but, as Professor Hildebrandt remarks, the distinction rests upon important characters. In fact, in adhesive vaginitis, the vagina retains its normal breadth and shortness, the uterus remains at its ordinary elevation, and presents a mass as well developed as in the normal condition. In senile atrophy the vagina is contracted in all its dimensions; the uterus presents changes in form, consistence, position, and size, which do not exist in cases of adhesive vaginitis.

ART. 253.—On the so-called *Dysmenorrhœic Membrane*.

By JULIUS M. KLOB, M.D.

(American Translation of *The Pathological Anatomy of the Female Sexual Organs*. Moorhead, Simpson, and Bond, New York.)

“Morgagni, Madame Lachapelle, Boivin, and Duges had already observed in dysmenorrhœa, the expulsion of peculiar membranes from the uterus, the striking resemblance of which to the *membrana decidua* had been remarked by P. Frank. Desormeaux, Churchill, Montgomery, Chéreau, and others, considered these membranes as croupy exudations, until their true nature was demonstrated by Simpson, Oldham, and Virchow.

“The membrane, which is generally covered with coagula when expelled in its integrity, is of a flattened and triangular shape, with two long borders and

a short one; the posterior and anterior layers being united at their margins, the membrane consequently forms a sac. At its angles this triangular sac is open, and the borders of these openings have a ragged appearance. Its external surface is rough and felt-like, and perforated by numerous openings, some of which are larger than the puncture of a needle, and are also visible on the inner surface, giving the walls of the sac a sieve-like appearance. Its inner surface is smooth, and of uniformly soft feeling.

"It is now clearly demonstrated that this membrane is nothing more than the exfoliation of the whole mucous membrane of the uterus during menstrual intumescence, for it is easy to detect in it, with the aid of the microscope, the characteristics of that membrane. Simpson recognized the above-mentioned perforations in the membrane as corresponding with the utricular glands, and found them to consist chiefly of nucleated cells; he therefore concluded that this membrane was nothing more than exfoliated hypertrophied mucous membrane. Virchow, even with the naked eye, noticed large bloodvessels in these membranes.

"Consequently, in this affection, the uterine mucous membrane is cast off as far as its matrix, and a sort of decidua is formed in consequence of a condition which Virchow calls 'pregnancy on a small scale,' and for which membranes he therefore proposed the name of menstrual decidua. According to Oldham this membrane is formed between the menstrual periods, the process commencing with considerable congestion of the ovaries, which extends to the posterior wall of the uterus, and frequently occasions retroversion of the latter.

"I have already stated that menstrual intumescence of the uterus differs very little from that accompanying acute catarrh. If therefore we are constrained to consider the process producing the menstrual decidua as an excess of menstrual phenomena, especially in the mucous membrane of the uterus, it follows that those pathologists were not far from the truth who described such cases as *endometritis*.

"Finally, I must also mention those cases which Rokitsansky suspects to be abortion during the first days of pregnancy, although this connection is not clearly proven.

"Membranous coagula, consisting of fibrin formed in the cavity of the uterus from extravasations, and moulded to the shape of the uterine cavity, are sometimes mistaken for menstrual decidua. Of course they are entirely destitute of organization, and not always of the peculiar sieve-like appearance."

ART. 254.—On Uterine Hydatidiform Disease, or Cystic Degeneration of the Ovum.

By THOMAS MORE MADDEN, M.R.I.A., L.K. & Q.C.P.I., M.R.C.S. Eng.,
Assistant Physician Rotundo Hospital.

(*Dublin Quarterly Journal of Medical Science*, November, 1868.)

Dr. Madden submits the particulars of the two following cases of uterine hydatidiform disease, one of which came under his notice several years ago, and the other of which occurred very recently:—

"CASE 1.—On the 4th of October, 1860, I was requested to visit Mrs. K., who, I was informed, was threatened with miscarriage. She was twenty-two years of age, and had previously given birth to two children at the full time. She stated that she believed herself to be five months pregnant, and her abdomen presented the ordinary appearance of a woman about that time advanced in pregnancy. For three days before I saw her there had been a considerable amount of clotted blood discharged from the uterus, and the midwife assured me that she had distinctly felt the placenta presenting. On examination, however, I found the os small and rigid, and discovered the supposed placenta to be nothing but a rather firm clot. Her pulse was extremely weak and thready, and I gave her an opiate draught and employed cold applications to the vulva. In about two hours from this time a larger clot than had yet appeared was discharged, together with some fluid blood, and was followed by a large mass of hydatids and fresh clots, which filled a large basin. These hydatids were of the

usual character of such formations, though some of them were larger than those generally met with, consisting of pedunculated spheroidal cysts varying in size from a currant to a plum. As the hydatiform mass was very slowly expelled, a dose of ergot was administered, and the discharge continued at intervals for upwards of an hour. When it had ceased, and the uterus, stimulated by pressure with a cold hand, had firmly contracted, I bound her up in the usual manner. She complained greatly of after-pains, but, with this exception, her recovery presented nothing worthy of notice.

"CASE 2.—Eliza Fox, aged fifty-three, married, the mother of fourteen children, was admitted into the Rotundo Lying-in Hospital, Sept. 30th, 1868, suffering from hemorrhage. The history of her case, which I took down from herself, is as follows: She was last pregnant eight years ago, and her menses have not yet ceased. For the past twelve months there had been a constant red discharge from the vagina, and at the same time her abdomen had been increasing in size; she did not, however, believe herself pregnant, owing to her time of life. During the same period occasional gushes of red watery fluid from the uterus were observed. On the 17th of September a smart attack of hemorrhage occurred, and three days later regular labor pains, as she says, set in, accompanied by hemorrhage—these occurred at long intervals; and on the 27th a large mass, which appears from her description to have consisted of hydatids, was expelled from the uterus. On the 29th the hemorrhage and pains returned, and after two hours of strong labor pains a small foetus, as she says, 'about as long as her hand,' was expelled—this appears to have been blighted at an early period of pregnancy, and was followed in due course by the placenta. Some hydatids now also came away. Dr. A. Speedy was then sent for, and had her removed into this hospital. As the discharge of blood still continued, half an hour after her admission, Dr. Beatty removed a mass of hydatids from the uterus, after which the hemorrhage did not again return. These hydatids are thus described by the pupil on duty in the case book: 'She expelled several masses, varying in size from a pea to a grape; some round, others oval; the small ones rather transparent, the large ones of a straw color; some were separate, others attached to a solid mass; evidently hydatids of the third order.' The specimens I have preserved of these hydatids are well described in the foregoing extract from the ward book. The patient made a good recovery, and I discharged her on the 8th of October, having kept her only eight days in the hospital."

ART. 255.—*On the Removal of Small Uterine Polypi by Torsion.*

By Prof. E. MARTIN.

(*Monatsschrift für Geburtskunde*, xxxii. 1869; *Schmidt's Jahrbücher*, No. 1, 1869.)

According to Professor Martin, of the different methods for removing uterine polypi, that of excision by means of the knife or scissors is especially adapted for firm, slightly vascular, and long stalked follicular growths, but less fitted for tumors rich in bloodvessels, unless the patient be an inmate of some hospital and under constant and experienced supervision. The best method for removing the latter forms of polypi and those with strong pedicles, consists in the application of some special strangulating apparatus, as the *écraseur*. With those tumors, on the other hand, which are furnished with thin soft pedicles (follicular polypi, myomata, myofibromata), and are developed on the lips of the os uteri or at the lower parts of the cervix, torsion will generally be the most serviceable plan. Professor Martin has applied this method with positive results in two cases of uterine myoma associated with profuse metrorrhagia. The proceeding, he says, is simple. The tumor having been exposed by means of a tubular speculum, whereby the vaginal portion of the cervix is fixed and the operation thus shortened, is seized by a small pair of dressing forceps or by Mugeux's hooked forceps; the instrument is then turned round repeatedly on its long axis until the growth becomes detached through torsion. In Professor Martin's cases there was no after-bleeding. The subsequent treatment consisted in injections of the sulphate of copper or of zinc practised twice in the twenty-four hours for several days. With cancerous protrusions the base is destroyed by cauterization with caustic lime or caustic potash, the application of the agent being repeated every eight or fourteen days until complete recovery.

Professor Martin gives the following as the results of his experience regarding the treatment of pedunculated uterine polypi in clinical and private practice: 1. The method of removal of the growth must vary according to the condition of the pedicle. 2. Removal with the knife or scissors is frequently attended with danger in cases where the patient is not under the constant supervision of skilled persons. 3. The ligature may be replaced with advantage by the *écraseur* in the removal of certain uterine polypi. 4. When the polypus possesses a soft and fragile pedicle torsion is to be recommended as the best plan for its removal.

ART. 256.—*Prolapsus Uteri of Seventeen Years' Standing Cured by Operation.*

Under the care of Mr. NORTON, of St. Mary's Hospital.

(*The Lancet*, January 23.)

The patient, whose case is appended, is at the present time—a year and a half after the operation—a milk-carrier in London; and though the weights she bears are excessive, there has been no return of the disease, nor have there been any bearing-down pains. She continues in perfect health.

Mrs. M. had labored under the severe effects of an extensive prolapse of the womb since the birth of her last child, a period of seventeen years. She stated that she was unable to walk, or in any way to gain a livelihood, and that she was only free from pain when lying down.

On examination, the uterus was found altogether external to the vagina. It was much enlarged, thickened, and indurated, and around the os, and upon different parts of the vagina, were several small ulcerations. Pessaries of various forms had been used to support the womb, but without effect.

Mr. James Lane saw the patient with Mr. Norton, and it was determined that the operation which Mr. Lane had performed on several occasions should be adopted.

On the following Wednesday Mr. Norton removed an elliptical piece of the mucous membrane about three inches and a half in length, by two in breadth, from the vesical wall of the vagina. The cut margins were then brought together by means of ten silver-wire sutures, and the uterus returned to its normal position. The bowels were confined by opiates till the sixth day, and then relieved by castor oil. The vagina was syringed daily with warm water, and after eight days the sutures were removed.

Fourteen days after the first operation, Mr. Norton removed by a horse-shoe incision rather more than an inch of the mucous membrane of the posterior and lateral walls of the vagina, including the cutaneous margins of the fourchette. The denuded surfaces were now approximated as in the operation for ruptured perineum, and were firmly fixed by means of silver-wire quilled sutures. The projecting lips were more evenly adapted by a second row of wire sutures somewhat deeply placed. As on the previous occasion, the bowels were quieted by opiates throughout the week. The quilled sutures were removed after forty-eight hours, and the others in seven days. On the removal of the quilled sutures a few drops of pus exuded, and the parts around showed some little redness and induration, but these symptoms were relieved by a bread and water poultice.

Within a fortnight after the second operation the patient left the hospital entirely cured.

ART. 257.—*Stricture of the Internal Os as a Cause of Miscarriage.*

By WILLIAM MARSHALL, M.D.

(*Glasgow Medical Journal*, February, 1869.)

The author relates the following instructive case. He was called to a delicate woman, aged thirty, five months advanced in pregnancy:—

"The pains were strong and forcing, very similar in character to those which

immediately precede the expulsion of the head in a primipara. I was told that when pregnant last she had miscarried at the fifth month, and that the pains then, for three hours, had been very severe—much worse than she had ever had in any confinement, and similar to what they were now. On examination, I found the os uteri dilated to the size of half a crown, and very soft. On passing my finger further up in order to feel the foetus, I found the canal of the cervix becoming decidedly narrower, when suddenly she cried out that I was cutting her, and jerked herself away. On a second attempt the same thing was repeated; but on a third, being prepared for her moving, I ascertained that a tight resisting constriction existed at the internal os, which would not admit the tip of the finger. As soon as I touched the constricted part, she complained of a severe cutting pain; and on attempting to pass the finger through it, she became hysterical, and on my persisting, *perfectly maniacal*. On withdrawing my finger she immediately became rational, and complained of the agonizing pain I had caused her.

"As she was quite positive that in her previous miscarriage she had suffered for three hours as much as she was doing now, I waited for a couple of hours. During this time the pains were very strong, and the suffering greater than I had ever seen in any confinement. In order to make a thorough examination, I put her under chloroform. The external os was very soft and dilated; but at the internal os there existed a constriction which still readily allowed the finger to pass through, and which seemed now quite dilatable. The breech was presenting, and I had no doubt that when a pain came it would be pushed through, and the whole thing soon be at an end. The pains, however, did not return as long as I kept her under chloroform, so that I was forced to discontinue it. The stricture returned with the first pain, firmly grasping the tip of my finger, which I had retained in the uterus. I now gave her a dose of ergot, and waited until one o'clock, when, finding that little or no progress had been made, I determined to notch the stricture in one or two places, under chloroform, as it was impossible to touch it without causing intense pain, and bringing on a maniacal paroxysm. I went home for a probe-pointed bistoury, and on my return in half an hour found the strictured part, with the breech forced into it, protruded through the external os, which was drawn up around it. After a few pains, the breech passed through the constriction; I pulled down the body, and finding that the hand would not come, pushed my finger past it, hooked it over the crown, and pulled the head through the stricture. Without withdrawing my finger, I detached the placenta, and withdrew it and the finger at the same time. While doing all this the patient was perfectly maniacal—she shrieked, kicked, struck, and bit at those around her. Immediately on withdrawing the finger she became rational, and apologized for what she had done; the agony had been so intense, she said, as to drive her for the time out of her senses. She recovered without a bad symptom."

Dr. Marshall makes the following remarks on this case:—

"1stly. With regard to the stricture itself, it is remarkable (1) that a stricture should have existed in such a spot; (2) that it should have been so exquisitely painful to the touch; (3) that the pain should have given rise to paroxysms of hysterical mania. May not some forms of puerperal mania depend upon a uterine lesion acting on an hysterical system?"

"2dly. That the stricture was the cause of the miscarriage in this and the previous pregnancy I have no doubt. I have never seen this mentioned as a cause of premature labor. The uterus up to the fifth or sixth month of pregnancy grows and expands almost entirely in its upper part. At that time it enlarges downwards from the internal os; but in this case the stricture would not allow it to expand, and by continued irritation induced labor-pains.

"3dly. If this be true, it throws some light upon 'What is the cause of labor?'—a point, I believe, still undetermined. If you examine the uterus at the eighth month, you find a considerable portion of the neck still unexpanded; if you examine at the end of the ninth month, you will find the neck entirely obliterated. What happens then? Does the uterus stop growing? No: it still continues to enlarge downwards, and it can only do so by dilating the os. Had this stricture been situated at the external os, the uterus would have gone

on growing till the end of the ninth month, and then, just as in the miscarriage, by irritation of the stricture, labor-pains would have set in. It is not necessary, however, to invoke the aid of a stricture at the external os to induce labor-pains. The os is the most sensitive part of the whole organ; to dilate or irritate which is to bring on pains. This the natural growth of the uterus does; then those contractions of the uterus, sometimes painful and sometimes painless, which occur every hour or two during the latter months of pregnancy, recur with greater frequency; the membranes and the head of the child are pushed down upon the os, exciting it more and more to induce pains by reflex action, until finally the labor is accomplished. This I have long regarded as the explanation of the cause of labor: the natural expansion of the uterus, acting on the sensitive os, begins to dilate it, and through it reflexly the necessary pains are called forth."

ART. 258.—*Extra-uterine Fœtation.*

By **EVERY KENNEDY, M.D.**, of Dublin.

(*British Medical Journal*, January 23.)

Dr. Kennedy records three highly interesting and instructive cases of extra-uterine fœtation. In the first case the patient died from hemorrhage caused by rupture of the right Fallopian tube.

In the second case there was also internal hemorrhage which completely prostrated the patient, but under careful treatment she recovered. Dr. Kennedy lost sight of the case afterwards, so that the history of it was not complete.

The third case Dr. K. saw with Dr. Dwyer. Dr. K. gives the first part in the words of Dr. Dwyer, and the latter in the words of Dr. Churchill:—

"Mrs. — has had one child, at this date (October, 1844) ten years old. About two years since she fancied herself pregnant; her menstruation having become scant and painful, accompanied with profuse leucorrhœa, occasionally tinged red. I treated her for these symptoms; and on her recovery, did not again see her until Sept. 4th, 1846, when she was suffering from symptoms of early pregnancy. Her last period had been on 16th July, 1846; it was natural, and she expected her confinement at the end of April, 1847. She now commenced suffering from *malaise*, with uneasy sensations in the uterine region; and on Oct. 20th, these became so acute that Dr. Kennedy was called in to see her with me. Fomentations and sedatives were directed, and with relief, for some days; when suddenly there set in agonizing pain in the right uterine and iliac regions, attended with vomiting and great prostration, with extremely small pulse, indicating apparently some peritoneal injury. Dr. Kennedy was at this time out of town; and Sir Henry Marsh saw the case with me. Opium was now administered freely, one grain of solid opium being given every second hour for some hours; and fomentations were repeated, followed by a blister and brandy. She gradually obtained relief, improved in health, but always experienced more or less sense of uneasiness and weight in the right iliac region. I discontinued my attendance on Nov. 7th; but was subsequently informed that she had quickened. I was called to see her on Nov. 26th; and on examination with the stethoscope, detected in the right iliac region, which felt full, a distinct placental *souffle*. I did not visit her for nearly four months from that time, and was again called to see her in March, 1847, when she suffered great distress from pressure, and, as she termed it, a bursting feeling at intervals. I now sought for the sounds of the fetal heart, but always in vain. A bandage and mild aperients afforded relief; and on April 25, 1847, I was summoned by the nurse-tender then in attendance upon her, who supposed her in labor. She stated that she had been all night complaining; and added that, as the pains continued, she thought it well I should know. The pains subsided, and the threatening went off for ten days, when, in consequence of the pain returning, with uterine discharge, I was suddenly summoned, and immediately asked for a consultation with Dr. Kennedy."

"Here Dr. Dwyer's report terminates; and I shall now state the rest of her case in its early stage, with which I am myself familiar."

"On a close investigation of her case, we satisfied ourselves that the os uteri was patulous. The neck was not obliterated. A resisting fulness was felt at the upper part of the vagina, pressing on its upper floor, and more perceptible at the right side of the uterus, the neck of which was traceable and but little enlarged beyond what would be the case if unimpregnated. It was pushed over to the left side. A steel sound was introduced by me into the os uteri, and passed up for upwards of three inches; and Dr. Dwyer could distinctly feel the point of the sound pressing up the fundus of the uterus against his fingers placed above the pubes. We now arrived at the conclusion that the case was one of extra-uterine pregnancy, most likely of that form in which the ovum had rested low in the Fallopian tube, close to the wall of the uterus; and further, as the pains had yielded under treatment, principally sedatives, and as there was no indication of internal hemorrhage, at least to any serious extent, from the rupture of the cyst (if this had taken place), we determined that no more decided interference was then called for. We informed the patient's friends of our opinion, and endeavored to reconcile them to the idea that at some future time nature would assist in accomplishing the throwing off of the fœtus, by abscess pointing in the vagina, or elsewhere, when assistance could be rendered more safely than by attempting any operation at the moment. This opinion was very unpalatable to the friends, and so ungraciously received, that we were relieved from further attendance upon the case, and the lady placed herself under the care of an eminent physician, since dead, who arrived at conclusions different from what Dr. Dwyer and I had done as to the nature of the case. What these were we never could exactly ascertain, further than that, in his opinion (an opinion I feel bound to say, with justice, highly thought of in the profession), the lady 'was not—nor had she been—pregnant, and consequently did not carry about a dead fœtus.'

"Eighteen years passed over. The lady, I have been informed, continued in a complaining state, but was able to go about, and did not evince much appearance of delicacy. She was said to have suffered from general debility, and for several years from a profuse menstrual discharge, as well as from rather constant sanious—purulent or leucorrhœal—discharges. These symptoms, and her general delicacy, ascribed in a great measure to the mistake which her physicians had made in pronouncing her pregnant when not so, and treating her accordingly, caused much interest to be taken in her, both within and without the profession, especially when this lady's case came upon the *tapis* between mutual friends. It should operate as a warning to the younger members of the profession, who pride themselves upon an astute diagnosis. For eighteen long years we reaped the full benefit of ours before the mystery was elucidated; and the only answer the two doctors could give to the repeated attacks and insinuations about the error they had committed, was '*wait!*' But, happily for the sake of science and truth, the mystery was eventually cleared up, and happily for the doctors they survived its elucidation. Some months since Dr. Churchill and Dr. Butcher were called to see this lady; and I shall best conclude the case by giving Dr. Churchill's account of the result in his own words.

"I was called to see Mrs. —, in a state of debility, worn out with discharges from the vagina of long standing; and on examining *per vaginam*, I found behind the cervix uteri, and a little to the right of the mesian line, a small opening as large as a goose-quill, into which the finger-nail entered, and grated against a hard substance, which was concluded to be bone. Higher up, a small tumor could be felt in the posterior wall of the uterus. On consultation with Dr. Butcher, this opening was enlarged by me; and Dr. Butcher removed the bones of a fœtus in detached portions denuded of soft parts, and much discolored, indicating development to about the third month. Some bones were subsequently expelled with the discharges; and the cavity, on being examined by me, seemed to be large enough to contain a good-sized walnut. Her health improved immediately after the healing of the abscess, which was speedily accomplished, and her periodic health became regular and moderate, with total subsidence of sanious and leucorrhœal discharges, to which she had been for eighteen years more or less liable."

The question that remains an open one in this case is, Whether rupture of

the cyst occurred; and if it did, at what period of the pregnancy? If rupture occurred, it must have been almost the 25th of October, when the acute abdominal suffering occurred, for which Sir Henry Marsh and Dr. Dwyer treated her; but she evinced no symptoms of internal hemorrhage; therefore, if the rupture occurred, no serious amount of blood could have made its way into the abdomen. The absence of any increased size or tumor in the abdomen further confirms there having been no hemorrhage in this, as was the case in the two preceding cases. Another feature of interest, that creates a doubt as to the exact period at which the development of the germ ceased, is the fact of Dr. Dwyer having detected the placental murmur exactly a month after the occasion of violent pains on the 25th of October. It will no doubt be in the recollection of the profession, that, in the year 1833, Dr. Kennedy put forward some cases of murmur existing after the death of the fœtus, but altered and more abrupt in its character; and this may probably have been the case here.

ART. 259.—*Treatment of Placenta Prævia.*

By Dr. FLUCK.

(*The Practitioner*, January.)

Dr. Fluck, of Niederselters, speaking of the various methods of dealing with the hemorrhage of placenta prævia (*Der Praktische Arzt*, October), contrasts the merits of the plan of plugging the vagina with those of injecting dilute perchloride of iron, much to the advantage of the latter. The latter method, he says, has the advantage of checking the bleeding promptly, without interposing any obstacle to the frequent examination of the os uteri and of the placenta, which is of the greatest importance. Fluck uses cold water for the injection, and adds the chloride of iron in such proportion as to make a mixture of a greenish yellow-brown color; the operation is performed gently and with pains, so as to avoid penetration into the cavity of the uterus. It is used just sufficiently long to arrest distinct hemorrhage, and is repeated before each operative interference; ergot is also given internally; and the uterus, when emptied, is steadily compressed with the hand from without. His plan is to rupture the membranes as soon as may be after arresting the hemorrhage. He relates five cases thus treated, all the women being multiparæ. In four of these the mother was saved; in one the mother died from intra-uterine hemorrhage, with great distension of the womb, after the delivery of the child and the placenta (the fœtus had been long dead, and was decomposed). In one other case the fœtus was also putrid; in a third it was born alive, though extremely *anæmic*. In the other two the child was born dead, and apparently had died from *anæmia* at some stage of the labor. On the whole, these results do not appear very encouraging as regards the life of the child, judging from the three cases in which the child had apparently not died before labor commenced; and one wonders if the author has tried Dr. Barnes' plan of partial separation of the placenta from the uterus. Another thing in Dr. Fluck's narration which is calculated to surprise an English physician is the sparing use, or almost non-use, of alcoholic stimulation under the circumstances of exhaustion, in which more than one of his patients obviously was. More particularly in the case which terminated fatally, one is amazed that Dr. Fluck should have trusted to "strong coffee and ether," when the most strenuous manipulation had been found necessary, in order to effect the delivery of the dead and putrid child, and the woman was exhausted in the extreme. One would think this was just one of the cases in which the prompt administration of unlimited raw brandy would have been likely to save life.

ART. 260.—On the Operations for the Relief of Chronic Inversion of that Uterus, with the Account of a Case Successfully Treated by a New Method.

By ROBERT BARNES, M.D., Obstetric Physician to St. Thomas's Hospital.

(*The Lancet*, April 24.)

The author discusses the merits of the various operations hitherto employed for the relief of chronic inversion of the uterus, tabulates the cases in which operations have been resorted to and which are not recorded in Mr. Gregory Forbes's memoir in the *Medico-Chirurgical Transactions*, adds these cases to Mr. Forbes's tables, and compares the results of the different methods. Of cases treated by ligature only, twenty-six were successful, ten unsuccessful, and of the latter eight died; of cases treated by ligature and excision, nine were successful, and three ended fatally; of cases treated by excision only, three were successful, and two died; of cases treated on Tyler Smith's plan, by sustained elastic pressure, six successful cases had been published; and of cases treated by forcible taxis; some had proved successful, but three had died. The ligature and excision were open to the double objection that, besides being very hazardous to life, success was only achieved at the expense of mutilating the patient. Forcible taxis was a violent and often fatal proceeding. Sustained elastic pressure had given remarkable results, but cases would occur where the constricted cervix would resist simple pressure. The author related a case of inversion of six months' standing which resisted elastic pressure kept up during five days; and in which he resorted to a plan, thus practised he believed for the first time, of making three longitudinal incisions into the os uteri, so as to relax the circular fibres; taxis then applied quickly succeeded. The woman made an excellent recovery. The author proposes, as the best proceeding where simple sustained elastic pressure fails, to make an incision on either side of the os uteri, and then to reapply the elastic pressure, as being safer from the risk of laceration than the taxis.

ART. 261.—A Case of Chronic Inversion of the Uterus.

By Dr. v. SCANZONI.

(*Scanzoni's Beiträge*, 1868; and *British and Foreign Medico-Chir. Review*, January.)

Professor Scanzoni relates with great minuteness an interesting case of chronic inversion of the uterus. The subject had borne three children normally, the placental being always cast without assistance. Several years after the last labor she began to suffer from metrorrhagia, and mucous discharges, often offensive. A fleshy body came through the vulva. This was replaced. The discharges increased so as to render the patient's position critical, and she was admitted into the Wurzburg hospital. The tumor in the vagina had been twice mistaken for a polypus. Scanzoni insists upon the following points in reference to the diagnosis: 1. The impossibility of passing sounds variously curved so high above the tumor as to pass into the uterine cavity. 2. The evidence of a soft pouch surrounding the stalk of the tumor. 3. The possibility of feeling by means of a finger in the rectum the point of a catheter passed into the bladder, and thus proving the absence of the uterus from its proper place. 4. The circumstance that, either with or without the above-named manœuvre, a fan-like body, small below, spreading out above, is felt above the vaginal roof, and which may on careful examination be recognized as the packet of Fallopian tubes, ligaments, and vessels proceeding to the sides of the pelvis; and lastly, the possibility by dragging down the tumor, of unfolding the folds surrounding the stem, so as to be convinced that the upper part of the stem is directly continuous with the roof of the vagina.

Scanzoni determined to remove the uterus. He applied Maisonneuve's écraseur; and having tightened this around the stalk, he cut off the uterus with a bistoury below the constriction. The chain was left on, perchloride of iron was applied to the stump. The chain fell off on the fourth day. Symptoms of peritonitis set in, and the patient died on the seventh day.

On section, pelvic peritonitis was found. Douglas's pouch was filled with purulent fluid; the os uteri was gaping, opening directly into the peritoneum. The amputated uterus inclosed a cavity, out of which the stumps of the broad ligaments, Fallopian tubes, and several vessels projected. In the anterior wall of the uterus was a hard fibroid tumor the size of a pigeon's egg. Attempt to reinvert the uterus with the fingers failed.

Scanzoni tabulates 58 cases under heads. The first includes 16 cases of removal of the uterus by ligature, ending successfully. The second includes 7 cases of removal by ligature, ending fatally. The third includes 2 cases of excision ending successfully. The fourth 6 cases of excision ending fatally. The fifth includes 22 cases of removal by ligature and excision ending successfully; and lastly, 5 cases of removal by ligature and excision ending fatally. He rejected the idea of trying to reduce the uterus, successfully practised by Tyler Smith, on the grounds that the attempt must cause great irritation of the vagina, and that hitherto its reduction had never succeeded when the inversion was caused by a tumor in the uterine wall.

ART. 262.—*On Retroflexion of the Uterus.*

By LOMBE ATTHILL, M.D., Fellow and Censor King and Queen's College of Physicians; Ex-Assistant Physician Rotundo Lying-In Hospital, Dublin.

(*Dublin Quarterly Journal*, February.)

In this paper Dr. Atthill draws the following inferences:—

1st. That retroflexion of the uterus is a common affection, and that it is met with both in married and unmarried females.

2d. That it is a secondary, not a primary, affection.

3d. That when it is due to chronic inflammation or congestion of the uterus, terminating in hypertrophy, the catamenia are diminished in quantity, and frequently painful.

4th. But that when retroflexion is the result of subinvolution of the uterus, following labor or abortion, the catamenial discharge is increased in quantity, sometimes even to an alarming degree.

5th. That in addition to the symptoms common to all forms of uterine disease—namely, pain in the back, sense of weight, &c.—we have not unfrequently, where the uterus is retroflected, reflex irritation of the bladder, stomach, and breasts, occurring as to frequency in the order given, and also constipation of the bowels.

With regard to treatment the author says, medicines are of but little value, save so far as the general condition of the patient may call for the exhibition of tonics. The displaced organ must be restored to its proper position, and retained in it. This should always be the first step, unless, as occurs in a comparatively small number of cases, there be so much local inflammation present as to render the application of leeches or other antiphlogistic treatment necessary. The raising the fundus to its normal position is generally effected without difficulty, unless, as occasionally occurs, it has become fixed in consequence of repeated attacks of pelvic inflammation. Under such circumstances treatment is of little use, and unfortunately these are the cases in which the sufferings are greatest. To retain the uterus in its proper position the patient must wear a pessary, and, in Dr. Atthill's opinion, none is equal for that purpose to Hodge's ring pessary. Care must of course be taken to use one of proper size, and adapted to the calibre of the vagina. Too large a one will give pain, too small a one will be useless. Sometimes it is, however, necessary to allow the patient to wear a small one for a few days till the vagina becomes accustomed to its presence, when it should be replaced by a larger one. The pessary once

introduced should be worn for a considerable time. Its presence seldom interferes with the use of a speculum, should it be found necessary to have recourse to local treatment. Maintenance of the recumbent, where it can be carried out the prone, posture by some considered alone sufficient for the cure, is in all cases an accessory measure of much importance.

ART. 263.—*Results of Transfusion.*

By Professor LANDOIS.

(*Medical Times and Gazette.*)

Professor Landois, of the University of Greifswald, who had interested himself much in the subject of transfusion, after giving a critical account of the most recent publications on the subject, thus sums up, in a recent number of the *Wien. Med. Woch.*, the results that have hitherto been obtained:—

1. Transfusion has been performed ninety-nine times in cases of hemorrhage, in eleven of which cases no successful result was even possible. Of the remaining eighty-eight cases, sixty-five were attended with success, twenty were unsuccessful, and in three the result was doubtful.

2. It has been performed twelve times in cases of acute poisoning, one of these being hopeless. In three the results were favorable, and in eight unfavorable.

3. For various forms of disease attended with exhaustion, it has been resorted to forty-three times, the most unfavorable prognosis having been frequently delivered. In these the results were favorable in twelve, unfavorable in twenty-one, and doubtful in nine, while in one case it was a mere desperate experiment.

Professor Landois observes that these statistics speak very satisfactorily for transfusion, and that the results would be far more favorable if this almost harmless operation were not usually driven off to the last minute.

ART. 264.—*Diagnosis of Partial Rupture of the Uterus.*

By C. HECKER, M.D.

(*American Journal of the Medical Sciences*, January.)

Dr. Hecker, in the *Monatsschr. f. Geburtskunde*, remarks that the partial rupture of the substance of the womb without implicating the peritoneal coat, is an accident scarcely less serious than when the rupture is complete, but unattended by the alarming symptoms which mark the occurrence of the latter. In general an unexpected fall in the size, with increase in frequency of the pulse, is perhaps the most decisive indication of the occurrence of partial rupture of the uterine walls. Among the local symptoms Dr. Hecker enumerates one nevertheless as of a very negative character, the sudden occurrence of an hæmatocele situated between the walls of the uterus and peritoneum. Dr. Hecker met with this in two cases. In the first the partial rupture was caused by the presence of a hydrocephalic foetus; in the second it was the result of medullary carcinoma of the posterior lip of the os uteri. In both cases during labor, the upper wall of the vagina was found to be pressed downwards by a soft elastic tumor. In the first of these cases no examination of the body after death was permitted; but in the second the swelling in the vagina was found to result from an effusion of blood beneath the peritoneum.

ART. 265.—On the Relation of Albuminuria to Puerperal Convulsions.

By P. M. HASTINGS, M.D., Hartford.

(American Journal of the Medical Sciences, January.)

The most important portion of this paper is that devoted to a consideration of the treatment of puerperal eclampsia. According to the author, the arrest of the disease will depend largely upon the prompt administration of active purgatives. Purgation, he remarks, is generally well borne, and marked relief from the form of toxæmia present is pretty sure to follow its operation. The compound powder of jalap and croton oil, assisted by stimulating enemata, he considers as among the best purgatives we can employ. Removal of the child, when it can be done readily, and without much violence, is our first duty. If the patient is plethoric, bleeding may prove of great service. In a large proportion of the cases that fell under Dr. Hastings's observation, he would consider general bloodletting to be injurious, tending to prolong convalescence. By the free use of chloroform we are enabled, excepting perhaps in cases of serious effusion or of true apoplexy, to control effectually the convulsive paroxysms, and thus gain an opportunity for the use of the remedies designed to remove their cause. After purgation, the free use of opium, combined in some cases with colchicum, will prove of great value. Bromide of potassium has recently been recommended as a valuable remedy. Dr. Hastings has no doubt that it will prove of great benefit in cases where opiates are not well borne.

ART. 266.—Ovarian Cystic Tumor Cured by Bromide of Potassium.

By JOHN MILLAR, M.D., F.R.C.S. Edin.

(Edinburgh Medical Journal, November, 1868.)

Dr. Millar relates a case of this which is interesting, as it serves to show that bromide of potassium exercises an influence by its deobstruent powers in absorbing and removing the fluid contents of an ovarian cyst.

The subject of the case was a widow, aged 48, mother of six children, who came under Dr. Millar's care in August, 1866. She had enjoyed good health up to that time, but then complained of weight in pelvic region, with loss of flesh and strength. Tonics were given without much benefit; the pelvic symptoms increased and there was difficulty in making water. On examination then per vaginam and rectum, a small defined tuberoso tumor was felt in the left ovary. This enlarged, the patient's health suffered, and February 1st, 1867, Dr. Millar tapped her and drew off 80 oz. of a dark-colored serous fluid. This afforded considerable relief at the time; but two days afterwards the patient complained of very acute pain in the region of the tumor, preventing sleep; nausea supervened with vomiting, and Sir James Simpson was called in consultation on the 6th of February, 1867. After a careful examination of the abdomen and the state of the patient, Sir James Simpson recommended the trial of the bromide of potassium in small doses, 5 grs. three times a day, with ice for the severe sickness and vomiting. Hot poultices, sprinkled with turpentine, were constantly applied to the left side, which was the seat of pain. Under the use of the bromide of potassium, the pain gradually diminished, but with the absence of pain there seemed to be a tendency to a return in size of the tumor, as some fulness was evident on examination in the left side.

Anticipating a return of the serous fluid, Sir James Simpson, the next time he saw the patient, on the 20th February, recommended the dose of the bromide of potassium to be doubled, which it accordingly was to 10 grs. three times a day, with very beneficial results, as the tumor within a few weeks became palpably diminished in bulk. During this period the patient perspired very copiously, and passed a large quantity of very dark-colored urine. This im-

provement gradually went on during February and March, until the beginning of April, when she was prostrated by an acute attack of gastritis, brought on by indulging in a glass of porter—a beverage so long forbidden that she could not resist the temptation with her returning strength to partake of it. Under the use of appropriate remedies the attack subsided, but became prolonged into a chronic condition, due to her constitutional weakness, during which time she had to be supported principally by nourishing enemata. As the use of the bromide of potassium was during this attack of gastritis suspended, the tumor, which had been reduced to a very small compass, gradually resumed its former size and bulk, so that in the latter end of May she presented very similar symptoms to those she experienced in January—so much so, that Dr. Millar was under the impression that it would be again necessary to tap her. However, he again consulted Sir James Simpson, who recommended the renewal of the bromide of potassium in larger doses than before, so that she now received 15 grs. three times a day with marked benefit; and not only so, she had less repugnance to the medicine than formerly, as she insisted that the nausea, of which she had reason to complain so much, was due to this medicine, and was therefore unwilling to renew it; but with a larger dose she experienced none of the former sickening effects. Dr. Millar observes that a similar thing happened in another of his patients, who for nervous debility was ordered the bromide of potassium, and who under small doses took a great repugnance to the medicine; but on its renewed in larger doses, she experienced none of the sickness and nausea with which she was previously troubled.

Under the continuous use of the bromide of potassium the tumor gradually diminished in size; and wishing to mark the progress of the diminution, the patient was desired to measure the width of the abdomen on a level with the umbilicus, when, within three weeks, from the last week in May to the third week of June, the decrease was from forty-eight inches to thirty-three inches. At the same time her general health greatly improved, the extreme tenderness of the abdomen which followed the acute pain she suffered in the beginning of the year also entirely disappeared; so much so that she was able to sit up in bed, and bear the pressure of her stays. The difficulty in making as well as retaining her water entirely disappeared; and it was only on examination, per rectum, that a small excrescence on the left ovary could be felt—the shrivelled remains of the ovarian cysts. In the beginning of July the patient was able to leave her couch, and by the end of that month she was sufficiently strong to go out and undergo without fatigue a moderate amount of exercise. Within a short time afterwards she returned to her usual occupation and domestic duties, and since then has, with the exception of one or two attacks of bronchitis, enjoyed pretty good health. At present her health is not very robust, yet she is able to go about her usual avocations; and with the exception of now and then feeling a sense of weakness in the left side, no traces remain of her former complaint.

(c) CONCERNING THE DISEASES OF CHILDREN.

ART. 267.—*On the Ophthalmia of New-born Children.*¹

By Dr. DESORMEAUX.

(*Gazette Hebdomadaire*, No. 4, 1869.)

The following conclusions are given at the end of M. Desormeaux's paper:—

1st. Under the denomination of purulent ophthalmia of infants have been confounded several different affections, as the catarrhal ophthalmia, the blennorrhagic ophthalmia, the diphtheritic ophthalmia, and finally, a special form of ophthalmia, the malignant ophthalmia of new-born children.

2d. This last form of ophthalmia is developed in new-born children under

¹ Communicated to the Académie de Médecine.

epidemic influences and by contagion; in children of more advanced age and in adults it is always the result of contagion.

3d. It has for a pathognomonic symptom the secretion of a saffron-colored serosity, the coloration of which is not due to a mixture of blood, and which stains linen deeply.

4th. This symptom exists only at the commencement of the affection.

5th. This affection, the march of which is very rapid, terminates in a few hours in loss of the eye. If it be arrested, but not cured, by an insufficient treatment, it may be prolonged for some time, but never gives place, like blennorrhagic ophthalmia, to conjunctival granulations.

6th. It habitually affects both eyes at the same time.

7th. The only suitable treatment is the eye-douche, frequently repeated, and followed by the instillation of weak collyria.

ART. 268.—*Belladonna in Infantile Icterus.*

By J. WARING-CURRAN, L.K.Q.C.P.I., &c.

(*Medical Press and Circular*, September 9, 1868.)

Dr. Waring-Curran is of opinion that the bile in cases of *infantile icterus* is not *suppressed* in its secretion, but that it is *retained*, that the liver and gall-bladder become surcharged and distended, that little if any bile passes through the *ductus communis choledochus*, and he has reason to think that the mischief lies either in the duodenum or common bile-duct—that a spasmodic condition of these parts, from the irritation or passage of the bile through the delicate structures, is the cause of the mischief. The duct becomes spasmodically closed, the bile, instead of being eliminated as it is secreted, is blocked up in the liver, and we have re-absorption of it taking place into the blood.

A few months ago Dr. Waring-Curran had the opportunity of making a post-mortem examination of a child aged seven days, who died from an injury to the head produced by falling from the nurse's arms. It had been previously out of health, and from the generally tinged condition of the skin, Dr. Curran was induced to examine the liver. He found it preternaturally large, distended with bile, and in carefully examining the duodenum and common bile-duct, he found the duct narrowed, and the characteristic tinge made by fresh bile entirely absent. He came then and there to the conclusion that the duct had been spasmodically closed during life, and thus the egress of the bile prevented.

That Dr. Waring-Curran has been correct in his opinion is best exemplified, he says, by the immediate relief afforded in the treatment of similar cases by tincture of belladonna in two-drop doses. After its administration there is an end to the incessant crying, the child falls asleep, passes bile freely by the bowels, and rapidly recovers its natural state and condition. The administration of calomel he considers unnecessary and cruel. The act of secretion has gone on naturally enough. The elimination of the bile is what is required, and for this purpose tincture of belladonna will be found expeditious and curative, by overcoming the spasmodic condition of that portion of biliary apparatus so frequently affected in children a few days after birth.

ART. 269.—*On Convulsions in Children.*

By SAMUEL GEE, M.D.,

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

In this paper, Dr. Gee gives a summary account of 102 cases of epileptiform convulsions in children, and he divides them into three classes, according as their causes are local, general, or uncertain. In 24 cases the convulsions were

apparently sympathetic of local disease in or near the cerebrum, such as tumors, abscesses, disease of the vertebræ, &c. In 73 cases, 1 was caused by anæmia, 1 by uræmia, 12 by acute specific diseases, as scarlet fever, measles, &c.; 1 by syphilis, 1 by exhaustion from a large ulcer, and 1 from chronic Bright's disease, but 56 were unaccounted for, and they are classed under the head of convulsions depending upon the general condition of the child. Dr. Gee considers that many cases of essential convulsions (eclampsia) are associated with a constitution tending to rickets. After giving a brief abstract of the 53 cases, Dr. Gee remarks that hypertrophy of the brain sometimes coexists with rickets; that sometimes enlargement of the cranial cavity occurs in rickets, without the brain being enlarged at the same time; that in reference to dentition, the backwardness of the teeth and the tendency to convulsions are sometimes concomitants of the rickety diathesis, and that in several cases the occurrence of measles did not produce fits, although the children had been subject to them previously. The cases of convulsions of uncertain origin were only five in number. The treatment adopted in most of the cases consisted in the administration of the bromide of potassium or ammonium (for a child, for instance, of a year old), in doses of four grains three or four times a day, and when the fits had ceased, of cod-liver oil and vinum ferri.

ART. 270.—*On Tracheotomy in Children; its Method, its Dangers, and its Difficulties.*

By F. HOWARD MARSH.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

In this paper Mr. Marsh records the conclusions at which he has arrived chiefly from his experience as House Surgeon at the Hospital for Sick Children. In the first place, he combats the objections which have sometimes been made against the operation, and he concludes that it can be as deliberately performed as any other surgical proceeding, that the struggles of the patient may be obviated by chloroform, and that the apprehension of dangerous hemorrhage has been exaggerated. After a brief but careful description of the structures concerned in the operations for opening the windpipe, he draws a comparison between laryngotomy and tracheotomy, declaring his opinion to be in favor of the latter as being on the whole more efficacious, although laryngotomy is most easily performed. But laryngotomy affords but little space for the introduction of the tube, it injures the integrity of the larynx and the vocal apparatus, and the tube causes great irritation and distress. In tracheotomy, few structures of any very great importance are involved, the tube is easily introduced, and the risk of hemorrhage is but slight. Mr. Marsh then points out the spot most suitable for the operation, which should not be too low down on the one hand, where the trachea is very deep seated, nor too high, where the thyroid gland is placed, and which it is expedient not to wound. The tube to be employed is then described, and the different steps of the operation are minutely related, together with the after-treatment, so far as surgical ministrations are concerned. Some cases are then recorded in which the operation was performed, and in some the proceeding was successful; in others, where the result was less fortunate, the causes of the failure are pointed out. The patient may die from the constitutional disease for the relief of which the operation was performed, or from the local effects of the operation itself, and sometimes in cases which promise well, some accidental circumstance produces a fatal result, as where a portion of false membrane becomes entangled in the canula. Ulceration about the wound, or of the trachea around the canula, is also a more common result and a more frequent source of danger than is generally supposed, and Mr. Marsh has notes of nine cases where this complication occurred.

ART. 271.—*A Case of Hæmaturia in a New-born Infant.*

By J. D. SMITH, M.D.

(Nashville Journal of Medicine and Surgery, June, 1868; and New York Medical Journal, October.)

This case, from its rarity, is deserving notice. A male infant, large, well developed, and apparently healthy, forty-five hours after birth, while suffering much as does a child with colic, passed about half an ounce of blood from the urethra. The hemorrhage recurred five times within twelve hours. At the end of this time Dr. Smith saw the case, and gave one drop of tinct. ferri muriatis every hour, and continued the use of an infusion of water-melon seeds, which had been adopted as a domestic remedy. The hemorrhage recurred twice within the next twenty-four hours, when there was a copious flow of urine, the first since the hemorrhage commenced.

The discharge of blood now gradually checked up, passing only in sufficient quantity to color the urine, which in two days more was entirely clear. The whole quantity of blood lost, Dr. Smith thought, could not have been less than four or five ounces, the father thinks much more. The child took the breast freely during the entire attack, except when in pain just before the passage of blood from urethra. The pulse remained very weak, and the child anæmic during the attack, and for some days afterwards, but there were no other abnormal signs to be discovered.

Now, whence the source and what was the cause of the hemorrhage? It might be said that if it had been from the kidneys it would have been mixed with urine. But little or no urine passed during the time, and when the kidneys acted freely the hemorrhage measurably ceased, which arrest of function is an indication that the kidneys were in a state of congestion. Could it have been the result of urinary calculus formed in the kidney during intra-uterine existence? If so, why has there not been further evidence of such a formation? Could it have been the result of the hemorrhagic diathesis? If so, would the blood have coagulated so rapidly? The mother, and the midwife who attended the case, both stated that it could not have been from mechanical injury, for the child had received no shock or concussion whatever.

ART. 272.—*A Case of Diabetes in an Infant.*

By JAMES L. BROWN, M.D.

(The American Journal of Obstetrics, May, 1868.)

The subject of the disease was a little girl under two years of age, who was born of healthy parents, and was herself remarkably healthy until about the twentieth month of her age, when her mother first noticed that she appeared to pass more water than usual, especially at night, and that she drank a great deal; but as her health seemed to be perfect in every other respect, this did not attract any particular attention.

It was not until five or six weeks after this time that her health seemed to be perceptibly deteriorating, and that Dr. Brown's attention was first called to her.

On examination the urine was found to be of high specific gravity and very saccharine.

The appetite continued to be good, but there was a perceptible loss of flesh, and an obvious diminution in strength. The temper too began to be fretful and peevish, and the child was evidently out of health, though not appearing to be sick. About a week or ten days after this an erythematous eruption began to make its appearance on the buttocks and around the vulva, and subsequently become a source of much discomfort. There was also a peculiar fetor of the breath, not unlike the odor of chloroform, which became stronger as the disease progressed, and was one of the most marked features of the case. The child was

still well enough and strong enough, however, to run about and to engage in its usual amusements, but with much less than its usual ardor. Her cheeks were still full of color, and her figure tolerably plump, and she yet retained the appearance of a healthy child. In three weeks more she was dead. There was a progressive loss of strength, a rapidly increasing emaciation, a gradual failure of the appetite, occasional febrile attacks of a few hours' duration, and death from simple exhaustion. There was no cough, no diarrhoea, no symptoms of cerebral disorder, and in fine, no complication whatever. She was confined to her bed only four days, and just a week before her death went out with her mother and walked a couple of blocks. The amount of urine passed during the last three weeks of her life averaged about five pints per day. Its specific gravity ranged from 1030 to 1036, and it never contained albumen at any time.

A post-mortem examination of the body was made by Dr. Jacobi, who saw the child about two weeks before her death. He found the brain large and well developed, having numerous and deep convolutions. That part of the arachnoid covering the anterior two-thirds of the hemispheres was not perfectly transparent, and there was considerable injection of the dura mater, and in fact of nearly the whole encephalon. There was some thickening of the arachnoid in the fissure of Sylvius, and a few granulations having the appearance of very recent miliary tubercles. The ventricles contained very little fluid, and were entirely normal. The choroid plexus contained hundreds of miliary tubercles. On first inspection the lungs presented nothing abnormal, but a closer examination discovered a number of little dots, just visible, which were evidently newly formed tubercle. The spleen was found studded with miliary tubercles, their number and development being much greater here than in any other part of the body.

Nothing abnormal was found in the liver or kidneys, except that the right kidney was somewhat larger than the left, and that the cortical substance of the left was more congested than that of the right. These were the only lesions found, and being all of recent origin and obviously secondary to the diabetes, the results of the autopsy, so far as the primary disease was concerned, were entirely negative. In a disease of which the pathology is so obscure, any circumstance that bears even remotely upon it may prove of importance. The diet of this child from the time that she was weaned consisted almost exclusively of food abounding in starch; she appeared to thrive so well upon it, and showed such a marked preference for it, that but little else was given her.

This fact, Dr. Brown says, may have had no influence in producing the disease, but it seems to merit special mention; particularly as diabetes is an affection that seems to be much more prevalent in some countries than in others, the difference being apparently due to a difference in the dietetic habits of the people.

ART. 273.—*On Bromide of Potassium for Diseases of Children.*¹

By M. MOUTARD-MARTIN.

(*Gazette Hebdomadaire*, No. 50, 1868.)

The practitioner is repeatedly called to see infants, in other respects healthy, who during the early months of their existence cannot rest, and who wear out, in consequence of loss of sleep, those who are about them: there are other children who sleep during the day, but never at night. In these cases, when tepid baths, infusions of poppies, orange-flower water, &c., have failed, bromide of potassium succeeds in a remarkable manner.

M. Moutard-Martin quotes several cases in support of the sedative action of the bromide of potassium in very young subjects, and derives from these facts the following conclusions:—

¹ Communicated to the Académie de Médecine.

1. Bromide of potassium, when administered in moderate doses (from 5 to 20 centigrammes), is perfectly tolerated by young children.

2. In consequence of its sedative action it cures the insomnia of young patients.

3. When administered to children who present the occasional affection at the period of dentition, characterized by restlessness, insomnia, and cough, it frequently succeeds in calming the bad symptoms, and may probably, when administered with prudence, prevent sometimes the occurrence of convulsions.

4. Bromide of potassium cannot be administered to children who have diarrhoea.

5. In certain exceptional cases where nervous erethism is predominant, the bromide may exert a prompt and decisive action.

ART. 274.—Simple Mode of Performing Artificial Respiration in Asphyxiated Children.

By C. HANDFIELD JONES, M.D., Physician to St. Mary's Hospital.
(*The Practitioner*, March.)

Dr. Jones writes: "During my presence at a confinement (in my own house) the child was born with several turns of the cord round its neck, and after it was released from these it lay with a swollen, livid face, and no attempt at respiration. As soon as possible I laid it down on its back, and made pressure on its abdomen; then raised it upright on its seat; again laid it down and pressed the abdomen; again raised it upright, and so on. In the recumbent position the diaphragm was of course pushed upwards, and expiration was imitated; in the sitting erect position the weight of the liver and abdominal viscera drew the muscles down, and inspiration was accomplished. The efficacy of the procedure was evinced in a very short time by the young gentleman making such vigorous use of his lungs that his cry was distinctly heard on the second floor below where he was."

ART. 275.—On the Wasting Diseases of Infants and Children.

By EUSTACE SMITH, M.D. Lond., Physician Extraordinary to the King of the Belgians.

(*Medical Times and Gazette*, November 28.)

In this work Dr. Eustace Smith especially points out that the terms "wasting," "marasmus," &c., are often very improperly used. He observes: "It is not uncommon to hear that a child has been given over for this supposed complaint (mesenteric disease) when he is in reality suffering from nothing else than *bad feeling*, with derangements of the bowels as its natural consequence. . . . Setting aside the extreme rarity of mesenteric disease, there remains the fact that the distension of the abdomen is by no means a necessary consequence of this disease. On the contrary, unless the glandular disease be great, the abdominal wall is more often retracted than expanded. . . . If the increase in the size of the glands is sufficiently great to produce a distinct tumor, the swelling is seated about the umbilicus, and does not occupy the whole abdomen." What then gives rise to the emaciation so often met with in infancy? Not one, but various diseases—chronic diarrhoea, rickets, worms, chronic tuberculosis, and congenital syphilis—and these diseases too frequently have their stimulus in a defective nutrition. "Wasting is a sign of defective nutrition," and in every case the cause should be inquired into. It may be unsuitable food; the child may be prevented from assimilating an ordinary digestible diet by some unhealthy condition of the alimentary canal, or some constitutional defect, as the existence of tuberculosis or congenital syphilis, may interfere with the proper nutrition of the tissues. It is very essential therefore to

detect the earliest symptoms of wasting, and to search out its cause. In the majority of cases it can be traced to improper feeding, and therefore a strict regulation of the diet is indispensable. "Tonics given to a child whose bowels remain disordered are *perfectly useless*, for, so long as derangement of the alimentary canal continues, nutrition cannot be restored, on account of the impediment thus presented to the digestion and the assimilation of food." The strictest attention should be given to regulate the diet, to arrange the quantity and the times for taking food, of course removing by medicine any improper food which may have been previously taken. In aid of a regulated diet, strict attention to the skin is necessary. For this purpose warm baths, followed by continued friction over the body for some time, will be found of great service, and in cases of chronic disease stimulating liniments and cod-liver oil. By these means the circulation is rendered more vigorous and the healthy action of the skin promoted. But discretion is needful in the use of counter-irritants to young children, for "an irritant which in a healthy child would produce only a moderate degree of redness will often, where the strength is much reduced, set up very great inflammation, or even produce sloughing of the tissues. . . . Blisters are inadmissible for infants."

Having given this general outline, the author proceeds to consider the various results which follow from defective nutrition; and first, "simple atrophy," which he states is "an exceedingly common condition." The supply of food may be actually deficient, as is often the case when the child is nourished entirely by the breast, but the milk of the mother is poor and watery. When she is weak, anemic, and evidently ill-nourished, the milk must suffer; but there are cases where the health and general appearance present no signs of weakness, and yet the milk is of inferior quality. "From the researches of MM. Vernois and Becquerel, we find that the richest milk is far from being secreted by women of the greatest muscular development. On the contrary, their investigations tend to show that a robust figure is inferior in milk-producing power to one slighter and apparently less vigorous." Besides those cases where the quantity of food is at fault, there is another class where nutrition is equally unsatisfactory, although the supply of food is liberal enough. For instance, where weaning is premature, or where the child has been brought up by hand and the food improperly selected, "a child is not nourished in proportion to the bulk of food he receives into his stomach." He may take large quantities of food into his stomach, and yet, from weakness of his digestive organs or from the indigestible nature of the food swallowed, may derive no nourishment from it whatever; on the contrary, it may cause great irritation and pain, and reduce the child it was intended to support. The author says: "It is the tendency of mothers to overfeed their children—to mistake every cry for the cry of hunger. Consequently the peevishness and irritability of the child increase in proportion to the pain excited in the bowels; the food is made more and more nourishing, and the louder the cry the thicker 'the sop,' until at last a violent attack of vomiting or diarrhœa takes place, or a convulsive fit warns the parent it is time to desist."

In nutrition it is important that changes be rapid. These are effected by the oxidation of the old material, which is then removed to be replaced by new matter. It is indispensable, therefore, that no needless impediment should exist to the free oxidation of the tissues. "Now, starches and sugars, into which starches are converted by digestion, have a greater affinity for oxygen than albuminates. They therefore tend to appropriate the oxygen which is required for the removal of waste matters, and so prevent the proper change taking place." For this reason alone, besides their indigestible properties, food composed chiefly of starches is very improper diet for a young child.

Under the head "Treatment" the author makes some very valuable remarks on nursing. He then proceeds to the consideration of infantile diseases, many of them the result of improper diet—for instance, chronic diarrhœa and chronic vomiting. Rickets he shows to be also an effect of malnutrition, and worms a consequence. Other constitutional diseases the author classes with these, as tuberculosis, phthisis, congenital syphilis.

ART. 276.—*Treatment of Hydrocephalus.*

By TIMOTHY HOLMES, F.R.C.S., Surgeon to the Hospital for Sick Children.

(*Surgical Treatment of Diseases of Infancy and Childhood.*)

With regard to the treatment of hydrocephalus, Mr. Holmes gives the following practical directions, which he believes to be the best that can be laid down from present experience:—

"1. As a general rule, nothing ought to be done beyond supporting the tumor and making gentle pressure by means of some bandage or cap, lined with cotton wool, to prevent ulceration. Perhaps as convenient a form as any other is to apply a gutta-percha cover on the tumor, and line it with layers of wadding, which can be gradually increased in number as the tumor yields to pressure.

"2. If there are obvious symptoms of general hydrocephalus, no operative measure is admissible.

"3. If there be a watery tumor which is rapidly on the increase, without other symptoms, repeated puncture may be tried; all possible precautions against the entrance of air being taken.

"4. If this method fails, the injection of iodine may be tried. Those cases appear to be best fitted for this method in which the tumor, as far as can be judged, is free from the presence of cerebral matter, and has a stalk or pedicle.

"5. All irritating applications to the skin are worse than useless. They cannot cure the disease, and may easily produce sloughing of the skin, and so burst the tumor and cause death.

"6. Finally, there may be cases, however rare, in which the entire removal of the tumor might be contemplated. If the communication with the interior of the skull has become obliterated, the case is converted into one of ordinary cyst, with no more danger, and at the same time no more urgency, about the operation than in common tumors. . . . In other cases, if it be determined to remove a tumor the pedicle of which is believed to have a communication with the cerebral cavity, the best method of operating would perhaps be to provide a clamp with narrow flat blades, something like that which is used by some surgeons in operating for piles. This clamp should be placed on the stalk of the tumor. The cyst could then be tapped, and as the fluid escaped, the blades of the clamp might be tightened, in order, if possible, to bring all parts of the inner surface of the pedicle into contact with each other. This being done, the tumor should be removed, two small flaps of skin being preserved to cover the opening. These flaps being united carefully (by the continuous suture), the operation would be terminated. The clamp could be removed after a certain time, say twenty-four hours. Its application would be intended to produce such an amount of inflammation and extravasation of lymph as may procure the obliteration of the pedicle, without so much or such long-continued pressure as would cause ulceration of the skin."

ART. 277.—*Treatment of Rickets.*

By BERNARD E. BRODHURST, F.R.C.S., Lecturer on Orthopædic Surgery at St. George's Hospital.

(*The Lancet*, November 14.)

The treatment of rickets, Mr. Brodhurst says, consists in the employment of all such measures as conduce to the restoration of health—namely, warm clothing such as flannel next to the skin, and enveloping the trunk and extremities; a diet composed mainly of animal substances, and a dry and pure air. To these may be added tepid bathing, as well as cod-liver oil and one or other of the various preparations of iron. Constipation and diarrhoea, which are so frequently present in this affection, are to be met, not by the exhibition of drugs,

but by a careful regimen. It is rare, indeed, that strict attention to diet will not, at least in the commencement of rickets, be sufficient in itself to regulate the secretions, and restore a state of healthy nutrition; but should it not be sufficient to effect this purpose, then recourse may be had to the nitro-muriatic acid bath, which, when used occasionally, and as it may seem to be required, is of great value in these affections.

The *surgical treatment* of curvatures of the tibia and femur, and knock-knee may be explained in very few words. It consists of the application of splints or supports to the bent limbs. These are placed on the inner side of the curve, and pressure, by means of webbing bands, is thus readily applied to the outer side of the curve. In *genu extorsum*, or outward inclination of the knee, the femur is curved outwardly as well as the tibia. In this deformity, therefore, the support should reach on the inner side of the curve to within two inches of the pubic bone. It should be made of metal, and as light as is compatible with the requisite strength, with a joint to correspond to the knee-joint, and its lower end should be inserted into a socket, which is let into the sole of the boot. Where the bones of the leg alone are curved, the support should reach from the inner condyle of the femur, to be let into the sole of the boot, as in the case before-mentioned. In both cases a pad should be so placed as to correspond to the internal malleolus, so that pressure may not cause injury to the integument. It is easy in this manner to remove this outward curve of the leg-bones. But together with an outward curve, there is not unfrequently found a forward curve also, and it is much more difficult to remove this anterior curve than it was to act on the outward curve. This anterior curve should be treated by means of a well-padded splint, and pressure should be made gradually, and increased very slowly; for in this position, the bone being sharp, and lying immediately beneath the skin, pressure would readily cause a slough. To act on such a curve efficiently, pressure should be exerted only in the horizontal position, and the child should not be allowed to stand until the curve be removed. The same system is to be adopted in the application of splints to the humerus and the radius and ulna. In all these cases the apparatus should be provided with joints which correspond to the articulation of the limb, and which allow, consequently, of motion at the same time that such pressure as is necessary is applied to the curved bone. It is, of course, to be understood that this treatment, when applied to rickety bones, is to be used before Nature's cure is effected; for as diarrhoea ceases together with night-sweats, and the functions of digestion are performed in a more healthy manner than heretofore, the epiphyses begin to diminish in size, and the salts of lime then are again deposited in the bones, so that they not only acquire their normal strength, but become endowed with much greater solidity and consistence than in their normal condition. The phosphate of lime then is deposited in abundance, especially on the inner side of the curve, and this deposition greatly increases the weight and strength of the bone. This is the cure which Nature performs. When this has been effected, the curves which existed remain unalterable. These observations apply, however, alone to rickety bones, and not to those curves which are induced in the long bones as a result of debility.

Genu valgum, or knock-knee, requires support on the outer side of the limb. This support is, perhaps, best given by means of a metal stem, which is fitted above into a band which encircles the pelvis, and below into the sole of the boot; joints correspond to the articulations of the limb, and one or more bands support the knee. In severe cases it is advantageous to attach a cogwheel to such an instrument, that the direction of the stem may be altered as the limb yields. In cases where such an apparatus is necessary, the child should be kept in the horizontal posture during almost the whole day. Exercise may be allowed, but it should be used sparingly. In a severe case in the adult, it is necessary to divide the outer hamstring.

The mode of division of the biceps tendon is as follows: The patient, lying on his face, will endeavor slightly to bend the knee, which will cause the muscle to spring into action, and make the tendon tense. The tenotome will then be introduced beneath the tendon from the centre towards the outer side of the

limb, and, being guided close to the tendon, it will pass between it and the peroneal nerve. The edge of the knife will then be directed upwards towards the tendon. So soon as the tendon is divided, the peroneal nerve becomes prominent, and a tyro may even doubt whether the tendon has really been divided. If care has been taken to pass the knife fairly and fully beneath the biceps tendon, on using a cutting motion the tendon will certainly be divided, and the knife may be felt covered only by the integument. The knife should then be withdrawn, and on no account should it be reintroduced. The temptation has sometimes been felt to be so strong that the knife has been reintroduced, and the nerve divided. Paralysis has, of course, followed. The puncture should be carefully closed, and the limb bandaged; and in the course of three or four days, when the wound has healed, extension may commence.

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